POWERING AMERICA: CONSUMER-ORIENTED PERSPECTIVES ON IMPROVING THE NATION'S ELECTRICITY MARKETS

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

OCTOBER 5, 2017

Serial No. 115–62

Printed for the use of the Committee on Energy and Commerce
energycommerce.house.gov

U.S. GOVERNMENT PUBLISHING OFFICE

27–772 PDF WASHINGTON : 2017

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
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C O N T E N T S

POWERING AMERICA: CONSUMER-ORIENTED PERSPECTIVES ON IMPROVING THE NATION'S ELECTRICITY MARKETS

THURSDAY, OCTOBER 5, 2017

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:17 a.m., in Room 2123, Rayburn House Office Building, Hon. Fred Upton (chairman of the subcommittee) presiding.

Members present: Representatives Upton, Olson, Shimkus, Latta, McKinley, Johnson, Long, Bucshon, Flores, Mullin, Hudson, Walberg, Rush, McNerney, Green, Castor, Tonko, Schrader, Kennedy, Butterfield, and Pallone (ex officio).

Staff present: Allie Bury, Legislative Clerk, Energy/Environment; Kelly Collins, Staff Assistant; Zack Dareshori, Staff Assistant; Wyatt Ellertson, Research Associate, Energy/Environment; Adam Fromm, Director of Outreach and Coalitions; Tom Hassenboehler, Chief Counsel, Energy/Environment; Jordan Haverly, Policy Coordinator, Environment; A.T. Johnston, Senior Policy Advisor, Energy; Drew McDowell, Executive Assistant; Alex Miller, Video Production Aide and Press Assistant; Brandon Mooney, Deputy Chief Energy Advisor; Mark Ratner, Policy Coordinator; Annelise Rickert, Counsel, Energy; Dan Schneider, Press Secretary; Peter Spencer, Professional Staff Member, Energy; Jason Stanek, Senior Counsel, Energy; Madeline Vey, Policy Coordinator, DCCP; Priscilla Barbour, Minority Energy Fellow; Jeff Carroll, Minority Staff Director; Rick Kessler, Minority Senior Advisor and Staff Director, Energy/Environment; John Marshall, Minority Policy Coordinator; Alexander Ratner, Minority Policy Analyst; Andrew Souvall, Minority Director of Communications, Member Services, and Outreach; Tuley Wright, Minority Energy and Environment Policy Advisor; and C.J. Young, Minority Press Secretary.

Mr. OLSON. The committee will now come to order. And the Chair at this time will not make an opening statement. I would like to ask the ranking member, Mr. Rush or Mr. Pallone, would you like to make opening statements?

The Chair calls upon our ranking member of the subcommittee, Mr. Rush, for a 5-minute opening statement.

OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. RUSH. Thank you, Mr. Chairman. I want to thank you for holding this important hearing today regarding consumer-oriented perspectives to improving the Nation's electricity markets.

Mr. Chairman, throughout this Powering America series of hearings, we are told repeatedly that the energy landscape is changing significantly. And it is vital that we hear from people who are being impacted the most, consumers and retailers. With most of the testimony submitted, there seems to be a consensus that consumers do not have the opportunity to fairly participate of all the developments taking place within the energy markets.

As we will soon hear, Mr. Chairman, many consumer advocacy groups believe that the RTOs are too beholden to the utilities than they are trying to administrate. And consumers do not have a large enough seat at the table to make their voices heard.

Many of these advocates argue that the whole process for reforming energy markets have become more and more complex, while at the same time consumer voices have been diluted to the point of being completely shut out. There also seems to be, a new consensus, Mr. Chairman, among today's witnesses, that FERC and DOE have become too tolerant of the RTOs' ability to shut out public interests, and participation, and policymakers must act to address this challenge.

Additionally, most, if not all of today's witnesses, take extreme exception to the most recent DOE notice of proposed rulemaking issued on September 29 on grid resiliency policy. Many, many in this room, plus DOE, are in the difficult position of unfairly and unjustly picking winners and losers, and placing the interests of select industries above the public interest.

While it is one thing for elected officials of individual States to adopt policies to address the needs of their constituencies, we must be careful of allowing unelected DOE officials to try and mandate a one-size-fits-all approach to an independent agency like FERC.

Mr. Chairman, whether through the creation of the legally mandated FERC office of public participation or through some other vehicle, we must ensure that the consumer voices are being heard and public advocacy rules are able to receive sustainable assistance and the financial compensation they need to have them fully participate in the FERC and RTO proceeding.

So, Mr. Chairman, I really look forward to this engaging panelon the best way to address some of these important issues. And with that I yield the remainder of my time to my friend, Mr. Kennedy.

Mr. KENNEDY. Thank you very much, Mr. Rush, for yielding, and many thanks to you and Chairman Upton for holding this hearing, among others, in the Powering America series.

To all the witnesses, thank you for being here this morning, and particularly to Ms. Tepper from our Commonwealth. Thank you for your work and dedication, all that your office continues to do for our Commonwealth. Grateful that you are here today.

During my time as a Member of Congress, I have unfortunately become all too aware of the complexities of the electricity markets, particularly in New England. I have learned quickly that the more complex a system becomes, the more likely it is that somebody is

getting short-changed. This dynamic is all too real in the electricity sector, particularly for consumers who are either unaware, shut out, or simply unable to participate in the process, yet continue to bear the increased cost.

While already paying the highest retail electricity rates in the lower 48, our region is about to get hit with yet another increase this winter. What has become clear to me is that there is no simple fix to this challenge, which makes the work that we all are trying to undertake all the more critical.

I look forward to your testimony and working with you to increase transparency and to amplify consumers' voice in this important debate. Thank you. And I yield back.

Mr. UPTON. The time has expired. And Chair would indicate that—sorry we started a little late, we had votes on the House floor. And in order for us to listen to you, I am going to put my statement into the record and yield back my time.

[The prepared statement of Mr. Upton follows:]

PREPARED STATEMENT OF HON. FRED UPTON

Good morning. After examining grid reliability issues earlier this week, today's Powering America hearing turns our focus to the people and organizations who advocate on behalf of the Nation's electricity consumers. Whether the consumer is a large purchaser of electricity, such as Walmart, or one of the millions of households that take service from a local electric company, there are individuals working behind the scenes to advocate and represent the interests of utility consumers. We have some of those fine folks with us today.

Today's witness panel includes ratepayer advocates, as well as representatives for industrial, commercial, and residential consumers. We also have with us the Independent Market Monitor for the PJM Interconnection—the world's largest wholesale electricity market. Since the Powering America series has largely focused on the organized wholesale electricity markets, we will spend much of our time examining the role of the Nation's RTOs and ISOs and the processes they use to incorporate feedback from various stakeholder interests, including the views of end-use consumers.

Our hearing will also consider the role of the Federal Energy Regulatory Commission, who is the Federal agency charged with regulating the RTOs and ISOs. As an independent agency, FERC's core mission is to provide "Reliable, Efficient and Sustainable Energy for Customers" and they attempt to achieve this goal by helping consumers obtain reliable and efficient energy at a reasonable cost through regulatory and market means. I should also mention that FERC is celebrating its 40th anniversary this week, so congratulations to the Commissioners and staff at the Commission.

In today's testimony, I hope that the witnesses will share their perspectives on how individual consumers can participate in the proceedings before the Commission. I'd also like to get a better understanding of how the various RTOs and ISOs incorporate consumer perspectives in their stakeholder processes, and whether the witnesses believe any improvements can be made. I should note that under Order No. 719, FERC already requires that RTOs and ISOs be responsive to the needs of the consumers who ultimately pay for electricity services.

I recognize that we're dealing with very complicated markets and the average consumer is going to leave it to you (the witnesses) to sort through the details and ramifications of the various market design and rate proposals. That's all the more reason why I want to make sure that yourviews and the interests of consumers are adequately represented in the electricity markets. If those views are represented, I am confident that the markets will deliver benefits to all consumers, large and small.

Mr. UPTON. I know Mr. Pallone would like to say a few things, so I will yield for an opening statement to the ranking member of the full committee, Mr. Pallone.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman. I want to commend you and Mr. Rush for putting together today's hearing to examine consumer perspectives and concerns with respect to electricity. We have an outstanding set of witnesses, including the Director of New Jersey's Division of Rate Council, Stefanie Brand, who is here representing the National Association of State Utility Consumer Advocates. I have had the pleasure of working with Ms. Brand, who has served in her role in both Republican and Democratic administrations. And I can tell you that she is a fierce, thoughtful, and successful advocate for our State's ratepayers. Thank you for being here.

This is an extremely important topic to delve into, and it couldn't come at a more critical time, particularly given Energy Secretary Perry's ill-conceived and wholly unjustified effort to commandeer the Federal Energy Regulatory Commission's rule making process, to provide unduly preferential and discriminatory rates to coal and nuclear generators.

If adopted by FERC, it will certainly result in increased cost to consumers with no significant benefit, and it will mark the beginning of the end of competitive electricity markets. I understand the concern around closure of non-economic coal and nuclear power plants. Nuclear plants, in particular, not only employ hundreds of thousands of people and provide financial benefits to the communities that surround them, but they provide large amounts of carbon-free energy that help make it possible to meet our Nation's climate goals.

However, Secretary Perry's proposal represents an unprecedented attempt to usurp policy making functions that belong to Congress and the States. This proposal is not about regulation and markets, which is what the Federal Power Act tasked FERC with. It is about subsidizing certain players in the electricity market at the expense of consumers and other generators who compete against the fuel types favored by the rule.

Regardless of whether you believe that it is a useful or harmful proposition, it is clearly a policy change that is far outside of FERC's purview. As former FERC Chairman Norman Bay recently noted, in order to move forward on the Secretary's proposal, FERC would have to find its own current rules to be unjust and unreasonable, and then find that the new rules favoring coal and nuclear generation are just and reasonable. And that is the kind of backflip that even the most flexible olympic gymnast would have a hard time pulling off.

We are still—this is a proposal that is not supported by the facts or even by the Secretary's own grid reliability report. And that is a view shared by many on both sides of the aisle. For instance, the R Street Institute rightly called the proposal an arbitrary backdoor subsidy to coal and nuclear plants that risks undermining electrical competition throughout the United States. And going on to say, the consumers would ultimately bear a hefty and unnecessary bill from any such Draconian intervention.

Meanwhile, Gerry Cauley, president of the organization tasked by law with overseeing the grid's reliability, recently declared that the state of reliability in North America remained strong and the trend line shows continuing improvement year after year. Moreover, much of the Secretary's proposal seems to be anchored to the idea that somehow renewables and even national gas-fired generation are somehow a threat to a reliable grid.

And I have certainly been a critic of national gas overbuild and pipeline safety, but I have not expressed doubt about the reliability of our Nation's natural gas system, the way this administration has, in its efforts to justify subsidies for coal and other favored fuels.

Not only has there been no empirical evidence to date to support the Secretary's proposal, in the modern history of electricity in this Nation there has not been a significant blackout caused by a lack of generation adequacy. In fact, according to a 2000 report by the Bush administration, the largest blackout in U.S. history was caused not by a lack of resources, but rather by management and programming failures by a single Ohio utility, First Energy, which lead to actions that turned—which should have been a localized situation into an event affecting some 50 million people. That had nothing to do with generation mix.

And it is critical to note that in that situation, nuclear-based load power did not contribute to the stability of the grid with nine nuclear power reactors shut down the result of loss of backup power. So as I stated at our reliability hearing, I firmly believe that it is time to start looking at reliability in new and different ways. The technology has transformed dramatically over the past 10 years or so, perhaps faster than our policies and our rate making models have been able to keep up with.

We should carefully reexamine the old approaches to reliability, resiliency, and rate making, to seriously consider whether our long term interests are better served by charting a new course. But, unfortunately, the Secretary's proposal is a power play, essentially, designed to move things in precisely the opposite direction. He wants to move us away from a modern balance fuel mix, lower consumer costs, and fewer environmental externalities, and back towards a time when coal was king and consumers had no control.

So I urge FERC to reject this proposal and I hope that all my colleagues will join me in helping move our policies forward towards a more resilience, reliable, and cost effective grid that benefits consumers as well as protects the environment. Thank you, Mr. Chairman.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

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I understand the concerns around closures of non-economic coal and nuclear power plants. Nuclear plants, in particular, not only employ hundreds or thousands of people and provide financial benefits to the communities that surround them, but they provide large amounts of carbon-free energy that help make it possible to meet our Nation's climate goals.

However, Secretary Perry's proposal represents an unprecedented attempt to usurp policy-making functions that belong to Congress and the States. His proposal is not about regulation and markets—which is what the Federal Power Act tasks FERC with—it's about subsidizing certain players in the electricity market at the expense of consumers and other generators who compete against the fuel types favored by the rule. Regardless of whether you believe that is a useful or harmful proposition, it is clearly a policy change that is far outside of FERC's purview. As former FERC Chairman Norman Bay recently noted, in order to move forward on the Secretary's proposal, FERC would have to find its own current rules to be "unjust and unreasonable" and then find that the new rules favoring coal and nuclear generation are "just and reasonable." That's a kind of backflip that even the most flexible Olympic gymnast would have a hard time pulling off.

Worse still, this is a proposal that is not supported by the facts or even by the Secretary's own grid reliability report -and that's a view shared by many on both sides of the aisle. For instance, the R Street Institute rightly called the proposal "an arbitrary backdoor subsidy to coal and nuclear plants that risks undermining electrical competition throughout the United States" and going on to say that "consumers would ultimately bear a hefty and unnecessary bill from any such draconian intervention." Meanwhile, Gerry Cauley, president of the organization tasked by law with overseeing the grid's reliability, recently declared that "the state of reliability in North America remains strong, and the trend line shows continuing improvement year over year." Moreover, much of the Secretary's proposal seems to be anchored to the idea that somehow renewables and even natural gas-fired generation are somehow a threat to a reliable grid. I have certainly been a critic of natural gas overbuild and pipeline safety, but even I have not expressed doubt about the reliability of our Nation's natural gas system the way this administration has in its efforts to justify subsidies for coal and other favored fuels.

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And, it is critical to note that in that situation, nuclear baseload power did not contribute to the stability of the grid, with nine nuclear power reactors shut down as a result of the loss of backup power.

As I stated at our reliability hearing, I firmly believe that it is time to start looking at reliability in new and different ways. The technology has transformed dramatically over the past 10 years or so, perhaps faster than our policies and our ratemaking models have been able to keep up with. We should carefully reexamine the old approaches to reliability, resiliency and ratemaking to seriously consider whether our long-term interests are better served by charting a new course.

Unfortunately, the Secretary's proposal is a power play designed to move things in precisely the opposite direction. He wants to move us away from a modern, balanced fuel mix, lower consumer costs and fewer environmental externalities and back toward a time when coal was king and consumers had no control.

I urge FERC to reject this proposal and hope that all my colleagues, on both sides of the aisle, will join me in helping move our policies forward toward a more resilient, reliable, and cost effective grid that benefits all consumer classes and the environment.

Thank you, I yield back.

Mr. UPTON. The gentleman's time has expired. We are going to move to the testimony of our panel at this point.

I want to say, we appreciate you submitting your testimony in advance, it is part of the record. If you are able to actually go through your remarks maybe faster than 5 minutes, that would be appreciated because we are expecting votes again in about 30 minutes. So perhaps we can get to questions at that point.

We are joined first by Joe Bowring, President, Monitoring Analytics, Independent Monitor for PJM. Welcome.

STATEMENTS OF JOSEPH BOWRING, PRESIDENT, MONITORING ANALYTICS, INDEPENDENT MARKET MONITOR FOR PJM; REBECCA L. TEPPER, CHAIRMAN, CONSUMER LIAISON GROUP FOR THE ISO–NEW ENGLAND REGION; MARK VANDERHELM, VICE PRESIDENT OF ENERGY, WALMART; JOHN P. HUGHES, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ELECTRICITY CONSUMERS RESOURCE COUNCIL; STEFANIE A. BRAND, DIRECTOR, NEW JERSEY DIVISION OF RATE COUNSEL; AND TYSON SLOCUM, DIRECTOR, PUBLIC CITIZEN ENERGY PROGRAM

STATEMENT OF JOSEPH BOWRING

Mr. BOWRING. Thank you, Mr. Chairman, and members of the subcommittee. And thank you for the opportunity to appear before you today. My name, as you said, is Joe Bowring. I am the Independent Market Monitor for the PJM wholesale power markets. I do not speak for PJM. I speak for the market monitor.

The role of the independent monitor, as defined by FERC, and included in the tariff, is to help ensure that the PJM markets are competitive by proposing market rules that incent competition, by monitoring for market power and by reporting on the markets. And while I am on a panel of consumer advocates, the role of the market monitor is not to be consumer advocate. I am an advocate for efficient, competitive wholesale power markets, which bring clear benefits to customers, as well as to suppliers of power.

PJM is the largest wholesale power market in the world. The largest competitive wholesale power market in the world covering 13 States and the District of Columbia. The goal of competition in the wholesale power markets is to provide customers wholesale power at the lowest possible price. The PJM markets work. The PJM markets bring customers the benefits of competition. But the PJM markets, as we have, heard, face new challenges that threaten the viability of competitive markets.

One benefit of competitive power markets is they are dynamic, flexible and resilient. The PJM market has resulted in a reliable system despite significant changes in underlying market forces. Technical innovation and lower gas costs have been key market forces. The PJM, as we know, there have been very significant unit retirements. They have also been substantial new entry, all driven by market forces. The PJM market design has worked flexibly to address both market exit and entry without preferences for any technologies. The results of new entry has been lower costs and increased reliability.

So, particularly, in times of stress on markets and on some particular generating technologies, nonmarket solutions may appear attractive. Top down, integrated resource planning approaches are tempting because it is easy to think that experts know exactly the right mix and location of generation resources, and the appropriate definition of diversity, and the appropriate definition of reliability, and therefore, which technologies should be favored.

Subsidies are tempting because they maintain existing resources and provide increased revenues to asset owners in uncertain markets. Cost of service regulation is tempting because guaranteed rates of return and fixed prices may look attractive to asset owners in uncertain markets.

But once the decision is made that market outcomes must be fundamentally modified, it will be virtually impossible to return to markets. The subsidy model is inconsistent with the PJM market design and constitutes a significant threat to PJM markets.

The issue of external subsidies continued to evolve in 2017. Ohio subsidy proceedings and Illinois subsidy proceedings originated from the fact that competitive markets resulted in the retirements of specific uncompetitive generating units. And regardless of the specific rationales offered, the proposed solution for all those units was unit specific subsidies. The subsidies were not to accomplish broader goals, they were to save particular units.

The recent Department of Energy, NOPR, proposes a much broader market intervention through cost of service regulation for specific unit types that would have a correspondingly large and negative impact on PJM's competitive wholesale power markets.

The proposed subsidy solutions ignore the opportunity cost of subsidizing uneconomic units. They suppress energy and capacity market prices and suppress incentives for investment in new, higher efficiency thermal plants, but also suppress investment incentives for innovation in the next generation of energy supply technologies and energy efficient technologies. These impacts are large and long lasting.

Subsidies are contagious. If uneconomic resources are artificially retained, this will suppress prices and create a need for additional subsidies for the remaining units. Competition in the markets will be replaced by competition to receive subsidies.

There is no reason to intervene in the markets in order to provide reliability and resilience. If PJM or FERC or DOE identify a need for greater reliability, it can be addressed using market mechanisms not out of market mechanisms. Competitive markets were introduced as an alternative form of regulation to ensure that the wholesale power is provided at the lowest possible price.

The PJM markets are working. The PJM markets provide competitive, reliable, and resilient outcomes. The PJM markets should be permitted to continue to work. And I was 40 seconds short of the 5 minutes. Sorry for not being shorter. Thank you.

[The prepared statement of Mr. Bowring follows:]

Monitoring Analytics

State of Electricity Markets

Before the House Committee on Energy & Commerce, Subcommittee on Energy

Joseph Bowring
The Independent Market Monitor for PJM
October 5, 2017

I am the Independent Market Monitor for the PJM wholesale power markets. I do not speak for PJM. The role of the independent market monitor, as defined by FERC and included in the PJM tariff, is to help ensure that the PJM markets are competitive by proposing market rules that incent competition, by monitoring for the exercise of market power and by reporting on the markets to regulators and customers. The IMM prepares annual and quarterly state of the market reports, in addition to reports on specific market topics, which are available on our web site.

The PJM Interconnection, L.L.C. (PJM) operates a centrally dispatched, competitive wholesale electric power market that, as of June 30, 2017, had installed generating capacity of 183,089 megawatts (MW) and 1,007 members including market buyers, sellers and traders of electricity in a region including more than 65 million people in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

While I am on a panel of consumer advocates, the role of the market monitor is not to be a consumer advocate. I am an advocate for efficient, competitive wholesale power markets which bring clear benefits to customers as well as to suppliers of power.

The goal of competition in the wholesale power markets is to provide customers wholesale power at the lowest possible price, but no lower. The PJM markets work. The PJM markets bring customers the benefits of competition. The results of the PJM energy market and the results of the PJM capacity market are competitive and reliable. But the PJM markets, and wholesale power markets in the U.S., face new challenges that potentially threaten the viability of competitive markets.

One of the benefits of competitive power markets is that changes in input prices and changes in the balance of supply and demand are reflected immediately in energy prices. The PJM load-weighted average real-time locational marginal price (LMP) was 19.2 percent lower in 2016 than in 2015, $29.23 per MWh versus $36.16 per MWh. PJM real-time load-weighted energy market prices were lower in 2016 than at any time in PJM history since the beginning of the competitive wholesale market on April 1, 1999. Energy prices were lower as a direct result of lower fuel prices and the resultant increased role of gas as the marginal fuel.

Another benefit of competitive power markets is that they are dynamic, flexible and resilient. The PJM market has resulted in a reliable system despite significant changes in underlying market forces. Technological innovation and significantly lower gas costs have been key market forces. In PJM, there have been substantial unit retirements as a result of market forces and there has been substantial new market entry as a result of market forces. The PJM market design has worked flexibly to address both market exit and entry without preferences for any technologies.

Particularly in times of stress on markets and when some flaws in markets are revealed, nonmarket solutions may appear attractive. Top down, integrated resource planning

approaches are tempting because it is easy to think that experts know exactly the right mix and location of generation resources and the appropriate definition of resource diversity and the appropriate definition of reliability and therefore which technologies should be favored through exceptions to market rules. The provision of subsidies to favored technologies, whether solar, wind, coal, batteries, demand side or nuclear, is tempting for those who would benefit, but subsidies are a form of integrated resource planning that is not consistent with markets. Subsidies to existing units are no different in concept than subsidies to planned units and are equally inconsistent with markets. Proposals for fuel diversity are generally proposals to subsidize an existing, uneconomic technology. Subsidies are tempting because they maintain existing resources and provide increased revenues to asset owners in uncertain markets. Cost of service regulation is tempting because cost of service regulation incorporates integrated resource planning and because guaranteed rates of return and fixed prices may look attractive to asset owners in uncertain markets.

It is essential that any approach to the PJM markets incorporate a consistent view of how the preferred market design is expected to work to provide competitive results in a sustainable market design over the long run. A sustainable market design means a market design that results in appropriate incentives to retire units and to invest in new units over time such that reliability is ensured as a result of the functioning of the market. There are at least two broad paradigms that could result in such an outcome. The market paradigm includes a full set of markets, most importantly the energy market and capacity market, which together ensure that there are adequate revenues to incent new generation when it is needed and to incent retirement of units when appropriate. In the market paradigm, investors absorb the risks associated with investment in and ownership of generation assets. In the market paradigm there is a market clearing price to incent investment in existing units or new units. The market paradigm will result in long term reliability at the lowest possible cost.

The quasi-market paradigm includes an energy market based on LMP but addresses the need for investment incentives via the long term contract model or the cost of service model. In the quasi-market paradigm, competition to build capacity is limited and does not include the entire PJM footprint. In the quasi-market paradigm, customers absorb the risks associated with investment in and ownership of generation assets through guaranteed payments under either guaranteed long term contracts or the cost of service approach. In the quasi-market paradigm, there is no market clearing price to incent investment in existing units or new units. In the quasi-market paradigm, there is no incentive for entities without cost of service treatment to enter and thus competition is effectively eliminated.

The market paradigm and the quasi-market paradigm are mutually exclusive. Once the decision is made that market outcomes must be fundamentally modified, it will be virtually impossible to return to markets. While there are entities in the PJM markets that continue to operate under the quasi-market paradigm, those entities have made a

long term decision on a regulatory model and the PJM rules generally limit any associated, potential negative impacts on markets. That consistent approach to the regulatory model is very different from current attempts to subsidize specific uneconomic market assets using various planning concepts as a rationale. The subsidy model is inconsistent with the PJM market design and inconsistent with the market paradigm and constitutes a significant threat to both.

The issue of external subsidies continued to evolve in 2017. These subsidies are not directly part of the PJM market design but nonetheless threaten the foundations of the PJM capacity market and the PJM energy market as well as the competitiveness of PJM markets overall.

The Ohio subsidy proceedings and the Illinois ZEC subsidy proceeding all originated from the fact that competitive markets result in the exit of uneconomic and uncompetitive generating units. Regardless of the specific rationales offered by unit owners, the proposed solution for all such generating units has been to provide out of market subsidies in order to retain such units. These subsidies are not accurately characterized as state subsidies. These subsidies were all requested by the owners of specific uneconomic generating units in order to improve the profitability of those specific units. These subsidies were not requested to accomplish broader social goals. Broader social goals can all be met with market based mechanisms available to all market participants on a competitive basis and without discrimination.

The recent Department of Energy Notice of Proposed Rulemaking (NOPR) proposes a much broader market intervention through cost of service regulation for selected technologies that would have a correspondingly large and negative impact on PJM's competitive wholesale power markets.

The proponents of subsidies and of the concomitant significant alterations to the PJM capacity market and energy market designs have not demonstrated that there is a systematic problem rather than an uneconomic unit specific problem. Proponents have not demonstrated that the technologies in question are uniformly uneconomic without subsidies. For example, over the 12 months ended in June 2017, fewer than a quarter of nuclear units in PJM did not recover avoidable costs from energy and capacity revenues despite low energy market prices. All PJM nuclear plants recovered more than 90 percent of avoidable costs for the 12 months ended June 30, 2017, despite the fact that some units were on refueling outages. Assertions about the impact of negative prices are also not supported. Negative LMPs reduced nuclear plant net revenues by an average of 0.3 percent and a maximum of 2.6 percent in 2016.

The proposed subsidy solutions in all cases ignore the opportunity cost of subsidizing uneconomic units, which is the displacement of resources and technologies that would otherwise be economic. A decision to subsidize uneconomic units that are a significant source of energy and capacity has direct and significant impacts on other sources of energy; the opportunity costs of subsidies are substantial. Such subsidies suppress energy and capacity market prices and therefore suppress incentives for investments in

new, higher efficiency thermal plants but also suppress investment incentives for innovation in the next generation of energy supply technologies and energy efficiency technologies. These impacts are large and long lasting but difficult to quantify precisely.

Subsidies are contagious. Competition in the markets could be replaced by competition to receive subsidies. PJM markets have no protection against this emergent threat. Accurate signals for entry and exit are necessary for well functioning and competitive markets. Competitive investors rely on accurate signals to make decisions.

The PJM wholesale power markets are not perfect. To the extent that market outcomes are subject to legitimate criticism, it is because the markets have, in some cases, not been permitted to reveal the underlying supply and demand fundamentals in prices. Before market outcomes are rejected in favor of nonmarket choices, markets should be permitted to work. It is more critical than ever to get capacity market prices correct and to get energy market prices correct. A number of capacity market design elements resulted in a significant suppression of capacity market prices for multiple years. PJM has addressed the fundamental issues of the capacity market design in its Capacity Performance design, including price formation, product definition and performance incentives.

Some are also proposing changes to the PJM market design to increase revenues to specific technologies under the rubric of energy market price formation. Within the market paradigm, the temptation to modify other elements of the PJM energy and capacity market design in order to address asserted issues related to the level of prices or the shape of the supply curve should also be resisted. Prices in PJM are not too low. The PJM supply curve is not too flat. One of the lessons of the history of PJM capacity market design is that design changes based on short term, nonmarket considerations can have long term, significant, negative unintended consequences. The basic logic of LMP should not be modified in order to increase prices, or off peak prices or revenues. The shape of the supply curve does not affect the basic logic of LMP and it should not be arbitrarily modified in order to meet a goal not related to the logic of LMP. The energy market design should not be modified in order to introduce elements of integrated resource planning to favor specific technologies. Improvements to the market design should be made when consistent with the basic market design logic, including better pricing when transmission constraints are violated and better and more locational scarcity pricing and improved incentives for flexible units by ending the practice of paying uplift to units based on inflexible operating parameters.

To the extent that there are shared broader goals related to PJM markets, they should also be addressed. If society determines that carbon is a pollutant, a market approach to carbon is preferred to a technology or unit specific subsidy approach. Implementation of a carbon price for the entire market is a market approach which would let market participants respond in efficient and innovative ways to the price signal rather than relying on planners to identify specific technologies or resources to be subsidized. If a

shared goal is increased renewables in addition to their carbon attributes, a market based solution to renewable energy credits (RECs) should be implemented.

Fuel diversity has also been mentioned as an issue. Current fuel diversity is higher than ever in PJM. If there is an issue, the real issue is fuel security and not fuel diversity. Before any significant actions are taken to undo markets in the name of security or resilience, careful analysis is required. PJM markets are secure and resilient and would be significantly harmed by interventions to broadly subsidize preferred technologies. If fuel reliability for gas is a concern, a careful evaluation would include the reliability of gas pipelines, the compatibility of the gas pipeline regulated business model with the merchant generator market business model, the degree to which electric generators have truly firm gas service and the need for a gas RTO to help ensure reliability. If the reliability of coal is a concern, a careful evaluation would include the quality and reliability of coal deliveries under a range of circumstances and the reliability of secondary fuel deliveries. If the reliability of nuclear is a concern, a careful evaluation would include the impact of natural disasters and common mode issues. A careful evaluation of overall market reliability would include the transmission system and the interaction among all elements of the markets in contingency analyses.

There is no reason to intervene in the markets in order to provide reliability and resilience. The reliability and resilience of PJM markets have continued to evolve through improvements in market design including changes to reserve markets and capacity markets. If PJM or FERC or DOE identify a need for greater reliability, it can be addressed using market mechanisms.

Competitive markets were introduced as an alternative form of regulation to ensure that wholesale power is provided at the lowest possible price. The PJM markets are working to provide competitive, reliable and resilient outcomes and should be permitted to continue to work.

Mr. UPTON. Thank you. Next we are joined by Rebecca Tepper, Chair of the Consumer Liaison Group for the ISO–New England Region.

Welcome. Make sure you turn the switch on your mike there.

STATEMENT OF REBECCA L. TEPPER

Ms. TEPPER. Thank you for having me, Mr. Chairman. And thank you to the rest of the committee, and particularly, thanks to Congressman Kennedy for the nice words, and for your fierce advocacy on behalf of consumers in Massachusetts, really, everyone appreciates that.

So my name is Rebecca Tepper and I am the Chief of the Telecom and Energy Division of the Massachusetts Attorney General's Office. But I also have the honor of being the Chair of the Consumer Liaison Group for ISO–New England, and that is why I am here today.

Thank you for holding this hearing and for recognizing the importance of consumer participation in the decisionmaking processes at our RTOs. I think sometimes we forget what meets when RTOs make decisions, and what it means to sort of the everyday consumer. You know, decisions about market operations, they effect whether your grandma who lives on a fixed income is going to be able to afford to keep her lights on. Decisions about reliability, they affect whether that hospital is going to be able to stay online 24 hours a day.

Decisions about electric reliability determine whether your manufacturing facility is going to be able to stay in your town and whether people are going to be able to continue working. And decisions about transmission affect your State's ability to get power from where it is to where the people are living.

So these are important decisions for every single person that lives in an RTO, and I think we have to keep those in mind when we think about consumer participation.

FERC and the RTOs have recognized that it is important to give voice to the people in businesses who ultimately use and pay for electricity. With FERC's guidance, many RTOs have developed mechanisms to educate consumers and allow consumer participation in the stakeholder process. In New England there are currently two main avenues for customers to participate, The Consumer Liaison Group or becoming a member of NEPOOL.

The Consumer Liaison Group was formed to meet the need for heightened communication between RTOs and their stakeholders pursuant to FERC Order 719. In my written testimony, I provided a lot of information regarding the history and the governance, so I will not go over all of that.

Today I will tell you about, just quickly, about our core work, which is we have quarterly, meetings, which attract a diverse group between 75 and 100 attendees at every meeting, they are open to the public. They are held throughout New England in the different States to allow broad participation. We generally have a keynote speaker, and then we have ISO available for updates and to answer questions. And then we usually have a panel discussion to get differing views on particular issues. Just to give you a sense, our recent meetings have addressed solar, cybersecurity, clean en-

ergy initiatives, and transmission development under FERC Order 1000.

But I want to be clear about what the CLG is and what the CLG is not. So the CLG is primarily an educational entity, it provides for a wide range of stakeholders, not just the State consumer advocates, to gain a better understanding of the ISO processes, and learn how ISO–New England actions impact customers. I think the CLG has successfully provided consumers with pricing data and information about their retail bills.

It has taken some of the mystery out of the ISO–New England process and increased transparency. But what it is not is an advocacy group that represents consumer's interests. As it operates today, the CLG has no formal role in the ISO–New England stakeholder decisionmaking process. It is simply not a substitute for NEPOOL membership and participation in the ISO stakeholder process.

My office is a member of NEPOOL. We devote a lot of resources to it. We have saved consumers $60 million over the last couple of years doing that. But not everybody can do that. And it is—certainly not most consumers can do that, can devote the resources necessary to be informed and productive contributors to the stakeholder process. They are complicated. They are expensive. And they are time consuming.

So very quick, I will give you four ideas about how I think things could be improved. First, I think it is helpful to establish a CLG, to have an educational component. I think it would be most effective with their own executive director.

Second, I think we should establish a stable funding mechanism that enables all State consumer advocates to fully participate in the RTO stakeholder process. This could be done either by providing funds to individual offices or through an association of consumer advocates, like the CAPS program at PJM.

Third, I think we should require all RTOs to consider cost in their decisionmaking, and provide cost impact analysis, including retail bill impacts on major proposals, and reasonable alternatives offered by stakeholders.

And, finally, to increase communication between RTO boards and consumers by having consumer representation on the board, and having board members come to stakeholder meetings with consumers. Thank you very much.

[The prepared statement of Ms. Tepper follows:]

Rebecca L. Tepper, Assistant Attorney General
Chief, Energy and Telecommunications Division, Massachusetts Attorney General's Office
Before the Subcommittee on Energy and Power
House Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC

"*Powering America*: Consumer-Oriented Perspectives
on Improving the Nation's Electricity Markets"
October 5, 2017

Summary of Testimony

- Decisions made by a Regional Transmission Operator ("RTO") affect every family and every business in the region.
- It is important that consumers, who ultimately use and pay for the electric services regulated by the Federal Energy Regulatory Commission ("FERC") have a voice in RTO decision-making.
- With FERC's guidance, many RTOs have developed mechanisms to educate consumers and allow consumer participation in the stakeholder process.
- In New England, there are currently two main avenues for customer participation at ISO-NE, the Consumer Liaison Group ("CLG") and New England Power Pool ("NEPOOL") membership.
- The CLG
    - The CLG is a forum for sharing information between ISO-NE and consumers.
    - The CLG was formed to meet the need for heightened communication between the RTOs and their stakeholders pursuant to FERC Order No. 719, which required RTOs to increase their responsiveness to customers.
    - The CLG is primarily an educational entity. It provides opportunities for a wide range of stakeholders to gain a better understanding of the ISO-NE process and learn how ISO-NE actions impact consumers.
    - The CLG is not a substitute for NEPOOL membership and participation in the ISO-NE stakeholder process.
- NEPOOL Membership
    - Under the current ISO-NE construct, a customer who wants to influence and participate in ISO-NE decision-making must join NEPOOL and actively participate in the stakeholder process or hire a representative to do so on the customer's behalf.
    - Not all state consumer advocates, and certainly not most consumers, can devote the resources necessary to be informed and productive contributors in a RTO stakeholder process. These processes are complicated, expensive and time-consuming.
- To increase consumer representation in the RTO stakeholder process, FERC and RTOs could start with the following:
    - Establish a program like the CLG that serves a broad range of customers through educational opportunities and access to RTO representatives and consumer-related data.
    - Establish a stable funding mechanism that allows all state consumer advocates to fully participate in the RTO stakeholder process.
    - Require RTOs to consider costs in their decision-making and provide cost impact analyses (including retail bill impacts) on all major proposals and reasonable alternatives offered by stakeholders.
    - Increase communication between consumers and RTO Boards.

Rebecca L. Tepper, Assistant Attorney General
Chief, Energy and Telecommunications Division, Massachusetts Attorney General's Office
Before the Subcommittee on Energy and Power
House Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC

"*Powering America*: Consumer-Oriented Perspectives
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October 5, 2017

Chairman Upton, Ranking Member Rush, and members of the subcommittee, thank you for the opportunity to appear before you this morning. My name is Rebecca Tepper. I am the Chief of the Energy and Telecommunications Division in the Massachusetts Attorney General's Office ("MA-AGO"). In Massachusetts, the Attorney General serves as the state's ratepayer advocate. As the ratepayer advocate, the Attorney General represents customers' interests in administrative and judicial proceedings regarding regulated industries, including the electric industry.
I also have the honor of serving as the Chair of the New England Independent System Operator's ("ISO-NE") Consumer Liaison Group ("CLG").

Thank you for holding this hearing and recognizing the importance of consumer participation in the decision-making processes at our Regional Transmission Operators ("RTO"). RTO decisions affect every family and every business in their region. Decisions about market operations affect how much your grandmother on a fixed income must pay to keep her lights on. They also determine whether the manufacturing facility in your town can afford to keep employing your friends and neighbors, and whether clean, cost saving measures like energy efficiency are included in the mix of resources that power our schools and homes. Decisions about electric reliability can determine whether your local hospital can operate during and after a weather event

and whether your business will survive an unexpected or prolonged outage. Decisions about transmission affect your state's ability to bring electricity from a distant generation site to where the people live and work. All of these decisions affect whether our children will be safe and live on a healthy planet.

The Federal Energy Regulatory Commission ("FERC") and the RTOs have recognized the importance of giving voice to the people and businesses who ultimately use and pay for electricity. With FERC's guidance, many RTOs have developed mechanisms to educate consumers and allow customer participation in the stakeholder process.

In New England, there are currently two main avenues for customer participation at ISO-NE: the CLG and New England Power Pool ("NEPOOL") membership.

The History of the CLG

The CLG is a forum for sharing information between ISO-NE and consumers. The CLG was formed to meet the need for heightened communication between the RTOs and their stakeholders pursuant to FERC Order No. 719, issued in 1998. Order No. 719 sought to enhance the "responsiveness of RTOs and ISOs to customers and other stakeholders, and ultimately to the consumers who benefit from and pay for electricity services." Order No. 719 at P 12. In Order No. 719, FERC required each RTO to "make reforms, as necessary, to increase its responsiveness to customers and other stakeholders." Order 719 at P. 7. Among other requirements, FERC directed each RTO to provide a forum for affected consumers to voice specific concerns (and to propose regional solutions) on how to improve the efficient operation of competitive markets. Order No. 719 P 2.

New England responded to Order No. 719's directive to examine RTO responsiveness by forming a working group that was open to all interested ISO-NE and NEPOOL stakeholders. The

MA-AGO's served as one of the four chairs of the Working Group representing the New England's state consumer advocates.

Through the Working Group, the MA-AGO outlined several concerns regarding ISO-NE's responsiveness and, working with other participants, offered solutions to the Working Group. The MA-AGO's expressed concerns that end-use consumers are not able to consistently provide effective input about their interests because the ISO-NE/NEPOOL decision-making process is complicated and extremely time-intensive. Additionally, the MA-AGO noted that most consumers and their advocates lack the resources required to meaningfully monitor and participate in the stakeholder process. Businesses and individuals simply cannot afford the time commitment that is required; they have their own lives and businesses to run.

The MA-AGO offered and/or supported several initiatives designed to address specific consumer concerns about the existing ISO-NE/NEPOOL stakeholder process. First, the MA-AGO, along with other state consumer advocates, sought more direct access to ISO-NE staff. Second, the MA-AGO, along with other state consumer advocates, requested that ISO-NE incorporate a cost concept into its mission statement and commit to providing economic analysis of ISO-NE initiated tariff changes and alternatives proposed by regional stakeholders. Third, the MA-AGO sought ISO-NE Board members with prior experience in consumer advocacy. Fourth, the MA-AGO requested that ISO-NE designate a consumer liaison representative within the ISO-NE organization. Finally, the MA-AGO recommended that ISO-NE open its board meetings to the public.

As a result of the Working Group process, the stakeholders agreed to a set of compromises to address ratepayer concerns. First, ISO-NE revised its mission statement, committing it to "strive to perform all its functions and services in a cost-effective manner, for the benefit of all those served by the ISO" and to provide "quantitative and qualitative information" on cost impacts for

proposed major initiatives. Second, ISO-NE and NEPOOL agreed to several procedural changes to increase Board transparency. Finally, the Working Group formed the Consumer Liaison Group.

CLG Governance

To launch the CLG, the Working Group drafted by-laws, which are still in effect today. The CLG is governed by a Coordinating Committee of twelve members. These members represent various stakeholder groups, with no more than four members coming from any one New England state. The Coordinating Committee has at least one representative of residential ratepayers and one representative of commercial and industrial ratepayers. Members must be either a ratepayer (or directly represent ratepayers), a member of a consumer organization, or a government consumer or ratepayer advocate.

The CLG selects the Coordinating Committee members at one of its quarterly meetings in an even-numbered calendar year. Coordinating Committee members serve for a term of two years or until successors are selected. The Coordinating Committee annually designates a chairperson from its membership. Should a vacancy occur on the Committee, the chairperson fills the vacancy with the approval of a majority of the remaining members. Current CLG Coordinating Committee members include state consumer advocates, business and industry associations, individual businesses, trade groups, educational institution nonprofit organizations, and other end users.

CLG Meetings

The CLG meets quarterly and attracts a diverse group of approximately 75-100 attendees at each meeting, both in person and via teleconference. CLG meetings are open to the public and are held throughout New England to allow broad participation. CLG meetings follow the same general format:

•Opening remarks from a keynote speaker—typically, an industry or business executive, policymaker, or regulator.

•An ISO-NE update on regional energy issues and initiatives that have or will be taking place at NEPOOL and ISO stakeholder meetings.

•A panel discussion facilitated by a moderator that provides different perspectives on particular issues.

With input from CLG members, the Coordinating Committee selects the meeting topics and panel members. ISO-NE facilitates and funds the meetings. Although there is no fee to attend a CLG meeting, attendees must pay for their own travel expenses. Recent CLG meetings have addressed (1) the growth of solar PV and distributed generation; (2) electricity security for consumers and protecting against cybersecurity threats; (3) the progress of energy infrastructure in New England; (4) New England states' clean energy initiatives; (5) the role of nuclear power in the region's energy mix; and (6) transmission development under FERC Order 1000.

CLG Funding

The CLG has no independent budget. Coordinating Committee members are volunteers and pay for their own travel and other CLG-related expenses. The CLG does not have an independent professional staff or executive director. ISO-NE has a dedicated staff person within its External Affairs Department to work with the Coordinating Committee. In addition, since the CLG's inception, the MA-AGO has performed many of the responsibilities typically performed by an executive director.

Other CLG Communications

In addition to the quarterly meetings, consumers can obtain CLG materials from a dedicated CLG page on the ISO-NE website. The Coordinating Committee also prepares an annual report summarizing the CLG activities and presenting an inventory of ISO-NE actions during the year. ISO-NE also issues a memorandum each month that provides timely updates on regional energy issues, stakeholder meetings, and other information that may be relevant to consumers.

What the CLG Is; What it is Not

The CLG is primarily an educational entity. It provides opportunities for a wide range of stakeholders, not just state consumer advocates, to gain a better understanding of the ISO-NE process and learn how ISO-NE actions impact consumers. The meetings are specifically designed for consumers. The Coordinating Committee emphasizes the importance of clear, easy to understand explanations of industry issues. CLG meetings are an opportunity for consumers to hear directly from and question ISO-NE representatives. The ISO-NE provides consumers with useful pricing data, including the relationship between retail bills and the wholesale markets. The CLG has successfully taken some of the mystery out of the ISO-NE process and has increased transparency.

The CLG is not an advocacy group that represents consumers' interests. It is also not a substitute for NEPOOL membership and participation in the ISO-NE stakeholder process. As it operates today, the CLG has no formal role in the ISO-NE stakeholder decision-making process. Thus, the CLG does not alleviate the need for state consumer advocates to engage in the NEPOOL process. Under the current ISO-NE construct, a customer who wants to influence and participate in ISO-NE decision-making must join NEPOOL and actively participate in the stakeholder process or hire a representative to do so on the customer's behalf.

NEPOOL Participation

The MA-AGO has been a voting member of NEPOOL since 2009. The MA-AGO devotes significant office resources to participate in the NEPOOL stakeholder process. This investment has resulted in tangible benefits for Massachusetts customers. In the last five years, the MA-AGO's NEPOOL and FERC work has resulted in over $60 million in refunds for Massachusetts customers.

In addition, the MA-AGO's NEPOOL membership has provided the opportunity for the MA-AGO to advocate for and obtain increased transparency in NEPOOL and ISO-NE processes.

Constraints in NEPOOL Participation

Not all state consumer advocates, and certainly not most consumers, can devote the resources necessary to be informed and productive contributors in a RTO stakeholder process. These processes are complicated, expensive and time-consuming. In New England, NEPOOL has hundreds of committee, subcommittee, and work group meetings per year covering a wide range of highly-technical issues. Many state consumer advocates simply cannot afford to devote the resources necessary to effectively monitor, evaluate, and influence the RTO stakeholder process.

Suggestions for expanding consumer participation to allow more meaningful input

To increase consumer representation in the RTO stakeholder process, FERC and RTOs could start with the following: First, establish a program like the CLG that serves a broad range of customers through educational opportunities and access to RTO representatives and consumer-related data. To be most effective, a CLG should have its own executive director.

Second, establish a stable funding mechanism that enables all state consumer advocates to fully participate in the RTO stakeholder process. This could be done by providing funds to individual offices or through an association of consumer advocates. One example of the latter approach is the Regional State Committees formed by FERC to coordinate and advance state participation in the RTO processes. In New England, the New England States Committee on Electricity ("NESCOE") is actively involved in the ISO-NE and RTO decision-making process. Its professional and technical consultants fully participate in the NEPOOL committee process and provide the New England states with the means to proactively identify issues and conduct independent evaluations of ISO-NE initiatives. Another example is the Consumer Advocates of the

PJM States ("CAPS"). CAPs supports the active participation of state consumer advocate offices in the PJM stakeholder process. Both NESCOE and CAPS are funded through FERC tariffs and the costs are minimal. Indeed, CAPS's funding amounts to approximately a penny per year for a residential customer in PJM.

Third, require all RTOs to consider costs in their decision-making and provide cost impact analyses (including retail bill impacts) on all major proposals and reasonable alternatives offered by stakeholders. Such an analysis, performed early in the process, would increase transparency and provide consumers with access to the cost information most relevant to them. In Massachusetts, transmission and generation costs account for approximately 60 percent of a customer's bill. Cost considerations and ways to reduce customers' costs should be a part of every RTO's mission.

Fourth, increase communications between RTO Boards and consumers. This could be achieved by requiring that at least one Board member has experience in consumer issues. In addition, one Board member could be designated as the Board consumer liaison.

Conclusion

Thank you again for conducting this important hearing and allowing me to participate. I am happy to answer any questions you may have today or in the future.

Mr. UPTON. Thank you. Next we are joined by Mr. Mark Vanderhelm, VP of Energy for Walmart. Thank you.

STATEMENT OF MARK VANDERHELM

Mr. VANDERHELM. Thank you, Chairman Upton, and thank you, the members of the subcommittee, for the opportunity to provide testimony.

My name is Mark Vanderhelm, I lead the energy procurement for Walmart. Fundamentally, we are looking at using less. What we do use, we would like to pay less for, and we focus on paying less for, and we would like to turn that greener. That is the focus for my role.

We operate in the 50 States, District of Columbia, and Puerto Rico. As part of that role, I oversee Texas retail energy, a wholly owned subsidy of Walmart, which participates in the wholesale markets, and operates as a competitor electric supplier directly serving our stores in 11 States. The Walmart energy team works to deliver on Walmart's mission to save our customers money, so they live better, and we pass those savings on to our customers through cost management and through energy efficiency.

We are market advocates and we are advocates of customer sited electricity and increasing that stakeholder process. Customer engagement in regulatory and stakeholder arenas is critical, especially as the industry transitions to a business model in which customers sited generation sources become as important to the system as you utility-owned resources.

Competitive wholesale electricity markets and customer choice and retail electricity markets are integral to our success. When paired together, they create direct economic benefits to our stores and our customers. Competitive wholesale markets also provide the transparent and easily transactable platform for the procurement of renewable energy. As an example, in Texas, we are able to procure directly wind supply that serves our stores without utility or regulatory intervention, based on the wholesale construct that exists there in Texas.

Customer choice gives us the freedom to choose a supplier that best meets our business goals, with services offerings that provide choices on price, reliability, and generation mix. The contrast of monopoly utilities companies, they are essentially guaranteed recovery for their costs from customers, competitive suppliers must offer superior service, better prices, and the investment is borne by their shareholders.

The benefits of competitive wholesale markets, this is an interesting statistic, customer choice are clear. When we compare our costs from 2006 to 2017, the reduction—and when we have customer choice, there is a reduction of 7 percent on average. In areas where we don't have customer choice, we have seen an increase in prices like 14 percent. Extremely relevant to understand the impact of having that customer choice.

States and utilities should be encouraged to develop new competitive wholesale markets or expand existing markets. And Walmart recommends that the subcommittee explore policy changes that allow FERC to streamline those regular approvals. The development of renewable energy associated infrastructure cre-

ates a secure electric grid in the long term, and an economic opportunity and jobs in the short term.

To that end, Walmart has established aggressive goals. We have committed to 100 percent renewable over the longer term. For 2025, we have committed to 18 percent reduction in our greenhouse gas footprint aligning ourselves with science-based targets. As a subset of that, that also includes energy efficiency, but as a subset of that is the commitment to 50 percent renewable by 2025.

We have 480 offsite and onsite renewable energy projects in operation and under development in seven countries and in 18 U.S. States and Puerto Rico. Walmart is deploying cutting-edge customer-sighted technology. We have six large battery systems, we have over 50 fuel cells, and we have 100 locations with electric vehicle charges, 300 electric vehicle charges at those 100 locations. So we are active in that customer-sighted sources of electricity, and use of electricity.

Customer choice should extend to customer activities behind the meter. Whether those activities generate or save electricity. A number of States limit the financing mechanism through which a customer can procure on-site generation technology, which ultimately limits the adoption of those technologies. Walmart typically uses a PPA structure leveraging capital from external parties and operations from external parties.

However, the technology employed by customers is becoming more responsive to grid—sorry. The discussion around PPAs and other financing models has largely been focused on on-sight installations. The technology deployed by customers is becoming more responsive to grid conditions and transactive with customers and market participants.

As it is the case with on-site solar, new technologies could be construed as challenges to the business of the incumbent utilities, and the response could be to limit their financing structures, able to be used to deployment.

To unleash the potential benefit of customer-sighted technology, the Federal Government should implement clear policies that give customers the freedom to install the technology on their homes and businesses that they want, and to finance it however they choose.

I appreciate the comments and the opportunity to present testimony.

[The prepared statement of Mr. Vanderhelm follows:]

TESTIMONY BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON ENERGY AND COMMERCE

SUBCOMMITTEE ON ENERGY

"POWERING AMERICA: CONSUMER-ORIENTED PERSPECTIVES ON IMPROVING THE NATION'S ELECTRICITY MARKETS"

WRITTEN TESTIMONY OF MARK VANDERHELM ON BEHALF OF WALMART

OCTOBER 5, 2017

Chairman Upton, Ranking Member Rush, and all members of the Subcommittee, thank you for the opportunity to submit this testimony in regards to the benefits to end-use customers of competitive electricity markets and the role of consumer advocates in electricity markets.

My name is Mark Vanderhelm, and I am Vice President of Energy for Wal-Mart Stores, Inc. ("Walmart"). I lead the team supporting Walmart U.S., which operates in all 50 states, the District of Columbia, and Puerto Rico. I oversee our Energy Regulation and Management, Energy Services, Energy Development, and Solid Waste and Recycling functions. I also oversee Texas Retail Energy, a wholly-owned subsidiary of Walmart which participates in the wholesale markets and operates as a competitive electric supplier, directly serving our stores in 11 states. The Walmart energy team works to deliver on Walmart's mission to save our customers money so they can live better, and does so through focusing on the operational success of our stores, energy cost management, and cost-effective procurement of renewable energy and energy efficiency technologies.

Walmart is unique among our retail peers in that we have a team that focuses on energy regulation and policy at the state and federal levels. At the state level, the team engages in

regulatory and legislative processes to advocate on behalf of Walmart on a broad array of issues, including securing reasonable rates that reflect utility costs to serve our stores, greater access to renewable energy resources, and competitive retail options. At the federal level, the team has engaged in proceedings at the Federal Energy Regulatory Commission ("FERC") and maintains a presence in the independent system operator stakeholder processes as both a customer and a supplier.[1]

Customer engagement in regulatory and stakeholder arenas is critical, especially as the industry transitions to a business model in which customer-sited energy management technologies and generation resources become as important to system operations as utility-owned resources.

Competitive wholesale electricity markets and customer choice in retail electricity markets are integral to our success and when paired together create direct economic benefits to our stores and our customers. Competitive wholesale markets also provide a transparent and easily transactable platform for the procurement of renewable energy and allow customer demand to directly contract for supply. For example, Texas Retail Energy has entered into contracts with two wind farms to directly serve our Texas facilities, all without utility and regulatory intervention.

Customer choice gives us the freedom to choose a supplier that best meets our business goals with service offerings that provide choices on price, reliability, generation portfolio mix, and risk management. In contrast to monopoly utility companies that are essentially

[1] Texas Retail Energy is a member of the Electric Reliability Council of Texas, ISO New England, the Midcontinent Independent System Operator, the New York Independent System Operator, and PJM Interconnection.

guaranteed recovery of their costs from captive customers, competitive electric suppliers must offer superior service at better prices than their competitors, and their investment risk is borne by their shareholders.

The benefits of competitive wholesale markets and customer choice are clear. When we compare our cost per kWh in 2016 to our cost per kWh in 2007, we find that our cost in customer choice jurisdictions decreased by almost 7 percent on average.[2] In contrast, our cost in jurisdictions without customer choice increased by 14 percent on average.

States and utilities should be encouraged to develop new competitive wholesale markets or expand existing markets, and Walmart recommends that the Subcommittee explore policy changes that allow FERC to streamline the regulatory approvals process and more quickly deliver market benefits to customers.

The development of renewable energy and associated infrastructure creates a secure electrical grid in the long term and economic opportunity and jobs in the short term. To that end, Walmart has established aggressive and significant renewable energy goals. In 2005, we set an aspirational goal to be supplied 100 percent by renewable energy.[3] In November, 2016, we built upon that goal by announcing that by 2025 we will be supplied by 50 percent renewable energy. Additionally, Walmart has set a science-based target to reduce emissions in our operations by 18 percent by 2025 through the deployment of energy efficiency, the consumption of renewable energy, and the reduction of refrigerant leakage. We have more

[2] California, Connecticut, Delaware, Illinois, Massachusetts, Maryland, Maine, Michigan, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and Texas.
[3] http://corporate.walmart.com/global-responsibility/environmental-sustainability

than 480 on-site and off-site renewable energy projects in operation or under development in seven countries and in 18 U.S. states and Puerto Rico. As of 2015, 25 percent of our global operations were powered by renewable energy.[4]

Walmart is deploying cutting edge customer-sited technology in order to better manage our energy usage and cost, enhance our energy security, respond to changes in the wholesale markets, and enable new technologies for our customers. Energy storage, such as batteries, can be leveraged for all of those functions, and to date we have installed nine large battery systems and have a significant pipeline in place for future deployments. We have a number of partnerships with electric vehicle charging companies to enable the adoption of EVs by our customers, and to date we have deployed 100 EV chargers across our store fleet. Finally, we have developed a modular LED lighting solution in partnership with our lighting vendors that the Department of Energy's Better Buildings Initiative has recognized as a new industry standard package. For a typical store, this solution can reduce annual energy usage by over 10 percent.

Customer choice should extend to customer activities behind the meter, whether those activities generate or save electricity. A number of states limit the financing mechanisms through which a customer can procure on-site generation technologies, which ultimately limits the adoption of those technologies. Walmart typically utilizes purchase power agreements ("PPAs") to contract for on-site generation. The primary benefits of PPAs are that there are no upfront capital costs, which allows us to focus our capital on our core business, and that the third party takes on the risks of developing and operating the generator. The discussion around

[4] http://news.walmart.com/2016/11/04/walmart-offers-new-vision-for-the-companys-role-in-society

PPAs and other financing models has largely been focused around on-site solar installations. However, the technology deployed by customers is becoming more responsive to grid conditions and transactive with other customers and market participants. As is the case with on-site solar, new technologies could be construed as challenges to the business of the incumbent utilities and the response could be to limit the financing structures able to be used for deployment.

To unleash the potential benefits of customer-sited technology, the federal government should implement clear policies that give customers the freedom to install the technology on their homes and businesses that they want and finance it however they choose.

Thank you again for the opportunity to speak to the Subcommittee and I look forward to answering any questions you have.

Mr. UPTON. Thank you. Next, we are joined by John Hughes, President and CEO of the Electricity Consumers Resource Council. Welcome.

STATEMENT OF JOHN P. HUGHES

Mr. HUGHES. Thank you, Chairman Upton, and other members of the subcommittee. I represent large U.S. manufacturers, they have facilities all over the United States, and especially within the footprints of the Nation's ISOs and RTOs.

We were founded in 1976 in anticipation of the enactment of the law called PURPA, and our initial focus was Title I of the PURPA that included several Federal rate making standards. ELCON played a key role in the implementation of those standards at the State level to ensure that they would produce economically efficient and non-discriminatory rates.

Beginning in the 1980s, our focus shifted to PURPA Title II, many ELCON members had a steam requirement at their manufacturing facilities. And PURPA Title II enabled them to use a technology known as cogeneration or combined heat and power for great economic advantage. This technology makes it easier to produce both steam and electricity at this site, and is quite cost effective. These members that we had in those days were champions in the use of natural gas-fired and combined cycle generation units.

Our basic principle of regulation is market-based solutions are preferred over command and control. We were instrumental in the early year—around the turn of the century in restructuring the utility industry in this country and the creation of the ISOs and RTOs. We have faith in those institutions to this day.

You have probably heard from Gerry Cauley's speech a couple of weeks on a central reliability services. NERC has been working for several years on defining these services as a means for sustaining the highly reliable grid that we have. FERC has, in the past, has been using these services and has created markets for them. They have, however, backed off from creating markets for one particular one, primary frequency response, and we have been negotiating with that agency to try to make amends on that.

Price formation is a big issue at FERC. They began a series of rulemaking beginning the 2014 to try to improve the prices that come out of the ISO and RTO markets. We believe that the markets have gotten a little bit too complex and lack transparency. A more simple market structure we believe makes the market operate more efficient and transparent.

One of the problems with the existing FERC jurisdictional markets is the overlay of capacity markets. We do not believe that these markets are necessary. ERCOT, which is the non-jurisdictional RTO in the State of Texas, is an energy-only market, and they operate quite well without the need for this capacity market.

Another problem that we have in the ISO and RTO markets is the rules and market design keeps changing all the time. There is no way for a large manufacturer to plan and forecast what their costs might be going out several years because the market rules are subject to change.

Now, I want to get to the DOE 403 proposal. We are dead set against this proposal. We believe that it will destroy the ISO and

RTO markets, if not, destroy the competition in those markets. What the attempt here is to create a big ATM machine for uneconomic obsolete coal and nuclear plants. Estimates of the costs to consumers of this proposal range from $800 million to $3.8 billion a year. Roughly a third of that would get passed on to the industrial infrastructure of this country.

We will strongly weigh-in at FERC in opposition to this. What can Congress do? In H.R. 8, which you passed about a year and a half ago, there was a proposal in there for a study by the Government Accountability Office, GAO, to do an assessment of the ISOs and RTOs in this country. We support such a study. Hopefully it won't be an obituary for the ISO and RTOs as a result of the 403 proposal.

We would urge another study to be formed by GAO on the need for these capacity markets. A lot of money is being transferred from consumer pockets through the ISOs to suppliers, as a result of these capacity markets. We challenge the need for them.

Finally, I want to thank the commission—or the subcommittee for this opportunity. And I would like to take my last seconds to urge you that if you tamper with the law of PURPA, especially Title II, be careful, it works in most applications in this country and at most States, and CHP is not the problem.

[The prepared statement of Mr. Hughes follows:]

"Powering America: Consumer-Oriented Perspectives on Improving the Nation's Electricity Markets"

Testimony of John P. Hughes
President & CEO
Electricity Consumers Resource Council (ELCON)
Before the Committee on Energy and Commerce
Subcommittee on Energy
United States House of Representatives
October 5, 2017

Chairman Upton, Ranking Member Rush, members of the subcommittee and fellow panelists, I am John Hughes, President and CEO of ELCON, the national association of industrial consumers of electricity. I appreciate the opportunity to discuss with you today the concerns of large U.S. manufacturers regarding recent trends in the electric power industry. ELCON's function is to minimize government mandates or interference in power markets that unduly increase power costs. Large U.S. manufacturers are extremely price sensitive when it comes to electricity purchases. Rates that do not reflect true cost of service or are not competitively determined – depending on the type of power market – hurt our competitiveness. Unlike traditional utilities that can pass the cost of government mandates to captive customers, the ultimate cost of those mandates hurt the bottom line of ELCON members.

ELCON was founded in 1976 in anticipation of the enactment of the Public Utility Regulatory Policies Act or PURPA. PURPA was finally enacted in 1978 and ELCON's original focus as a Washington-based advocacy group was state implementation of six

federal standards in Title I. This was the first time Congress and the Federal government attempted to directly intervene in state regulatory policies affecting electric utilities. The Title I standards included five retail ratemaking policies that states were required to consider as well as a requirement to consider load management techniques, i.e., the consideration of customer load reductions as an alternative to traditional utility supply from generation. Since 1978 Congress has enacted an additional thirteen federal standards. The House recently considered a twentieth standard on resilience, which I will touch on later in my remarks. For ELCON members these standards were a mixed blessing. Some represented sound economic policies that ensured that state retail ratemaking practices encouraged conservation, reliability, and efficiency in the delivery and generation of electricity, and to do so with "equitable retail rates for electric consumers." Most did little more than endorse a trend in the industry that did not need a nudge from Congress. A few were attempts to favor (or disfavor) one fuel or another and the same for non-traditional regulatory practices.

Beginning in the 1980s ELCON's focus shifted to another part of PURPA – Title II. Title II was intended to promote the development of cogeneration (often referred to as "combined heat and power" or CHP facilities) and small power production facilities, which were mostly renewable energy resources. Many ELCON members had manufacturing processes that were driven by steam or other forms of thermal energy. Traditionally they boiled water on site for steam and purchased electricity from the local utility. With CHP both could be produced on site with tremendous savings in costs, efficiencies and environmental impacts. CHP became the go-to technology for a wide swath of industrial processes such as chemicals, oil refining, paper, primary metals, building materials, and food processing. PURPA worked and today CHP facilities are an important part of our energy mix. Currently the United States has an installed capacity of over 82 gigawatts of CHP and more than 4,100 industrial facilities use this technology but there remains 149 gigawatts of potential CHP that has yet to be deployed. Unfortunately, with the changes made to PURPA by the 2005 Act coupled with other factors, the development of this important energy resource has stalled.

An important side benefit of PURPA Title II was the introduction of "competition" in the generation of electricity. The adoption of a CHP facility was made easier if for whatever reason the local utility's industrial rates were unacceptably high. In the 1980s and 1990s one of the main reasons for such rates was cancelled nuclear power plants and the fact that billions of dollars of abandonment costs were passed on to utility ratepayers. The punitive nature of this cost recovery policy inspired ELCON to support industry-wide restructuring that made market-forces a central feature of the electric utility industry. I will not belabor the origins of Independent System Operators (ISOs) or Regional Transmission Organizations (RTOs), which now serve as a platform for competitive electric services across more than half of the country. The landscape today is decidedly different from the late 1980s and early 1990s. In many states consumers are no longer dependent on the local utility for the electrons that run their homes, businesses and factories. But all is not well.

There remain some serious problems with the wholesale markets and wholesale market policies subject to FERC jurisdiction, and this gets me to several issues that bring me to the table today: the use of market-based solutions to achieve regulatory goals, price formation in ISOs and RTOs, transmission costs, and ISO-RTO stakeholder processes.

Market-based Solutions, Not Command and Control

ELCON supports greater use of competitive markets to provide compensation for unbundled electric services. In most states served by an ISO or RTO, electric services are no longer the monopoly of the local utility. Competitive suppliers and energy service companies exist that provide energy, capacity, ancillary services, demand response, and electric storage. This principle should also be applied to Essential Reliability Services (as recommended in the August 2017 DOE Grid Study and as defined by the North American Electric Reliability Corporation (NERC)). Essential Reliability Services, which are a subset of ancillary services, were recently defined by NERC to give system operators the right tools to maintain the reliability of the bulk power system given the tremendous changes that are taking place in the industry.

The Federal Energy Regulatory Commission (FERC) has recently backtracked from its policy to favor market-based solutions over command and control when it issued a proposed rulemaking in November 2016 mandating that all new generators provide primary frequency response. We strongly believe that FERC, rather than issuing command and control mandates, should create competitive markets for all Essential Reliability Services that compensate willing providers of these services.

Price Formation in ISOs and RTOs

As a point of departure in any discussion on improving the market designs of ISOs and RTOs, ELCON believes that the designs need to be made simpler and not more complex. Complex market design only breeds the need for more and more complex price mitigation. We also believe that the existing dichotomy between energy and capacity markets is not sustainable. It is not clear what problem the capacity markets were attempting to fix. Even after 20 years of experience with these markets, there is still no stable market design. They are constantly being tweaked, amended, and modified such that it is impossible to plan more than a few years in advance. It is difficult for a large energy-intensive manufacturer to plan and develop new state-of-the-arts factories if reasonable forecasts of future power costs are impossible.

Beginning in 2014, FERC has initiated a series of rulemakings intended to improve price formation in ISO and RTO markets. Regulations are always a mixed bag, and the FERC proposals are no exception. It is not clear where FERC is going with this initiative, but many of the proposals are attempts to redress the fact that not every party is a winner in competitive markets.

Then, on September 29, 2017, in an attempt to redress the plight of uneconomic coal-fired and nuclear plants, the Secretary of Energy submitted to FERC under Section 403 of the DOE Organization Act a proposed rulemaking on grid resiliency pricing. The Secretary's action referenced the recent DOE Grid Study as suggesting that the price formation rulemakings should be used to prop up uneconomic baseload generators, even though the same study acknowledged that it is primarily market forces that doom these plants.

The outcome of such a rulemaking if approved as proposed would be the destruction of the competitive wholesale electric markets. Those markets cannot be sustained if coal, nuclear, wind, and solar resources are all compensated with out-of-market payments. For all practical purposes, the DOE proposal would take the "price formation" out of price formation. Make no mistake that while ELCON has been critical of the ISO-RTO market designs, we have not advocated their destruction. Concerns about the jobs of specific resources are best left to markets. Markets are bipartisan. The federal government should not be in the position to pick the winners and losers in the power industry as DOE is proposing. DOE is saying manufacturing jobs are not as important as the jobs at economically obsolete coal-fired and nuclear power plants—plants for which the market has already provided much more economic alternatives.[1]

Transmission Costs

ELCON members are concerned about the rapidly rising cost of transmission that is offsetting the downward pressure on rates created by low prices of shale gas. Transmission costs cannot be hedged. We are deeply concerned that the cost allocation proposals of ISOs and RTOs that are subsequently approved by FERC do not properly assign costs of new or upgraded transmission facilities to the ultimate beneficiaries of those lines. Federal subsidies that are provided to wind and solar facilities are artificially driving the need to expand the interconnected transmission system at no benefit to the nation's manufacturers.

ISO/RTO Stakeholder Processes

It is ELCON's judgment that the stakeholder processes of FERC-jurisdictional ISOs and RTOs do not generally serve the interests of consumers (of any size) and, in fact, consumer interests are consistently underrepresented in these processes. These processes lack transparency and have become a venue for rent seeking by dominant suppliers – the

[1] One particularly egregious aspect of the DOE proposal is the fact that the original owners of these baseloaded plants recovered all their fixed costs as a pre-condition to the plants being spun off as supposedly unregulated merchant generators.

establishment of capacity markets being one such example. Stakeholder processes also contribute to the fact that ISO-RTO market designs are in a constant state of flux. We know of no other competitive or regulated industry that faces this form of meddlesome tutelage.

Proposed Legislation on ISOs, RTOs and Capacity Markets

We are pleased that two provisions in the House energy bill (HR 8) that passed at the end of 2015 may be workable models for addressing some of our concerns.

GAO Study on ISOs/RTOs - Section 4221 would have required the Government Accountability Office (GAO) to assess and issue reports on each RTO and ISO's "market rules, practices and structures." The grid operators would be judged on a number of issues, including whether they produce just and reasonable rates; facilitate fuel diversity, reliability and advanced grid technologies; and promote "equitable treatment of business models, including different utility types." GAO also would evaluate the transparency of grid operators' governance structures and stakeholder processes as well as the transparency of dispatch decisions, including the need for out-of-market actions and the accuracy of day-ahead unit commitments. The reports also would review how well grid operators facilitate "the ability of load-serving entities to self-supply their service territory load." ELCON supports a study of this type. We also suggest that the study evaluate the merits of, not just the transparency of, existing ISO-RTO stakeholder processes, and the effectiveness of each ISO and RTO at creating efficient, open and competitive markets.

Capacity Markets - Section 1110 would have amended the Federal Power Act Section 215B to require RTOs and ISOs operating capacity markets to provide to FERC an analysis of how the capacity markets use competitive forces and include "resource-neutral" performance criteria. FERC would be required to report to Congress on whether each market meets the criteria and make recommendations for those that don't. ELCON supports such a study but prefers it be independently performed by GAO. We question the objectivity of ISOs and RTOs that have capacity markets. We also suggest that such

a study seek an explanation from each ISO and RTO on why their respective energy markets do not function like real competitive markets and provide a market-based return on capacity. And this should include the market valuation of reliability and resilience.

Other Issues: Resilience, Nuclear Power, Clean Coal and PURPA

Resilience

I want to conclude my remarks with a couple of concerns that I hope Congress will not address. The new buzz word in the utility space is resilience. ELCON questions the validity of "resilience" as an externality having fungible value, especially in the context of base-loaded generation. While we will try to keep an open mind on the issue as the debate unfolds, we know that coal-fired and nuclear plants are not immune from so-called Black Swan events such as hurricanes, tornadoes, earthquakes, and tsunamis.[2]

It is important to point out that many critical manufacturing facilities do not really benefit from enhanced grid resilience. Several ELCON members report a recent increase in outages that resulted in costly damage to their industrial processes. They also note that the utilities are already doing a better job restoring service but the problem is the damage has been done regardless of how quickly service was restored, and it may take weeks or months to repair the damage and restore production.

The DOE Grid Study seeks the internalization of this externality in competitive wholesale electric markets. One approach suggested in the study would raise the level of compensation for all generators; DOE's Section 403 filing would limit it to coal-fired and nuclear units. Consumers would obviously be worse off from either approach. We believe consumers would benefit from a more efficient allocation of compensation among existing, economically viable generators and this might be another fruitful topic for study

[2] Nuclear plants in Florida had to be shut down because of Hurricane Irma and baseloaded coal plants in Texas were switched to natural gas in response to Hurricane Harvey. Also, NERC's assessment of the 2014 Polar Vortex concluded that "Outages [were]directly attributable to cold weather, including on-site fuel issues such as frozen coal piles, frozen equipment and/or sensors under the control of the generating plant, and gelled fuel."

by GAO. We stand firmly in the principle that uneconomic generators should exit the market and not be artificially sustained with subsidies.

ELCON believes that FERC's regulations and policies should remain neutral with respect to the types of technologies and fuels employed by the utility industry to generate electricity. FERC must not pick winners and losers. We believe that only the most cost effective resources should be planned and operated, consistent with existing environmental and siting laws and regulations, and NERC reliability standards.

Proposed Legislation on Resilience

Section 1107 in the previous House energy bill would have established a new federal ratemaking standard (under PURPA Section 111(d)) directing states to consider requiring all utilities to develop plans for improving the resilience of their systems against physical sabotage, cyberattacks, electromagnetic pulses, geomagnetic disturbances, severe weather and earthquakes. Among the measures that utilities may consider are the hardening of distribution facilities; technologies that can isolate or repair problems remotely, such as advanced metering and monitoring and control systems; cybersecurity measures; distributed generation; microgrids and non-grid-scale energy storage.[3] State regulators "shall consider" authorizing spending on such improvements, the bill says.

While this provision only directed states to "consider" requiring their jurisdictional utilities to develop these plans, ELCON is concerned that it may promote "gold-plating" and result in higher power costs to consumers. Furthermore the nudge is unnecessary because states are fully aware of these risks and continue to work with their jurisdictional utilities to harden local infrastructures but balancing those investments with the interests of consumers who must pay for these upgrades. The recent experience with Hurricanes Harvey and Irma are good examples. ELCON also supports measured efforts by NERC

[3] In addition, section 1201 would establish a competitive grant program for states and local governments for spending on resilience and reliability.

to address resilience – once a workable definition of resilience is achieved – and this also obviates the need for legislation.

Nuclear Power & Clean Coal

ELCON is troubled by the inability of utilities to prudently construct new nuclear power plants or utility-scale Clean Coal facilities (such as integrated gasification combined cycle (IGCC) systems). Efforts to date involving federal subsidies and other forms of government assistance have not worked, and cost overruns associated with these projects are exposing utility customers to unprecedented rate increases with little assurance that these plants will be successfully completed. We urge Congress to use its investigatory powers to ascertain whether continued federal support for these technologies is in the best interests of utility customers and taxpayers. The good intentions of Congress to support a new "renaissance" for these technologies may, in fact, be creating a false sense of security regarding their true economic viability – at great cost to both consumers of electricity and taxpayers.

PURPA & CHP

Finally, I understand that this committee is considering "reforms" to PURPA. While I believe any problems with PURPA could be - and were designed to be - fixed at the state level, I want to remind this committee that testimony before this committee last month and at last year's PURPA conference at FERC clearly showed that CHP is not the problem and should not be inadvertently harmed by broad-brushed PURPA reform.

Conclusion

I appreciate the opportunity to share ELCON's views and concerns with the subcommittee. These are exciting times and ELCON members will continue to be challenged by these changes to ensure that electricity - which is essential for their manufacturing processes and profitability - remains reliable and affordable. Thank you.

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Mr. UPTON. Thank you. Votes have been called on the House floor, so we will do one more. We will do Stefanie Brand, Director of New Jersey Division of Rate Council, and then we will adjourn and come back after the votes.

Ms. Brand.

STATEMENT OF STEFANIE A. BRAND

Ms. BRAND. I will do my best to talk quickly. Good morning, Chairman Upton, members of the subcommittee. Congressman Pallone, thank you for your kind words and for everything you do for New Jersey's consumers.

I am the Director of the New Jersey Division of Rate Council, which is charged by statute with representing consumers at both the State and the Federal level. I am also a member of the executive committee of NASUCA, which is an association of over 40 offices like mine throughout the country. And our office and other members of NASUCA have been actively involved in pressing for greater consideration of the needs and interests of consumers, both the RTOs and FERC. And, frankly, it has been a very long and uphill battle.

At PJM, the shear number of issues and meetings makes it very difficult for consumers to participate. The stakeholder process is very complex and requires attendance at many meetings. In September alone there were 44 meetings over 22 days. And while a lot of them are accessible by phone or on the web, most of the work occurs in the hallways or on the sidelines. And so that makes physical presence a priority, if not a necessity. And that can be a tremendous strain on offices like ours.

The consumer advocates within PJM formed a group called CAPS, Consumer Advocates of PJM States, that allows us to pool our resources so that we speak together with a stronger voice. We have an executive director who is present at the most important meetings, and he represents us as a group. And individual offices have stepped up efforts to vote and participate. Even with this increased focus, our participation is limited in less than the other sectors of PJM.

There are a few potential solutions to increase consumer participation at the RTOs. The first would be to identify and make available sources of funding for groups like CAPS. The amount that would be needed is very small. CAPS funding amounts to about a penny a year per residential customer.

Consumer participation in the RTOs could also be improved if consideration of the interest of consumers was made a more central part of the RTO's mission. Ensuring that rates are just and reasonable is an essential goal of the Federal Power Act. It should also be an essential goal of the RTOs.

While CAPS represents a significant step forward, consideration of the interests of consumers remains inadequate. PJM's primary function is to keep the lights on. And it freely admits that it does not necessarily factor in the ultimate cost when putting forth proposals or approving projects. While we certainly share PJM's interest in keeping the lights on, we believe that cost should be taken into account early in the process so that customers get the service they need but at a just and reasonable price.

The failure to adequately consider costs early enough is something that needs to change to make the system work better for consumers. With respect to the markets, competition should keep prices at a reasonable level. Up until now, at least, the competitive markets have worked for New Jersey rate payers and that we have benefited from our participation in them. However, as time has gone on, there have been more and more administrative changes to the market rules so that it is hard to even call them a market.

Since 2010, there have been 27 significant filings made to modify the rules of the capacity markets, and they have changed in just about every year since 2007. So what is the impact of this for consumers? First, the system is so opaque and confusing and constantly changes, that the average consumer will never make sense of it.

In New Jersey, generation transmission costs, which flow through PJM, account for nearly 60 percent of a customer's bill. And there is really no way for customers to understand how those numbers are derived.

Second, the complexity of the rules, I believe, leads to higher prices. There are so many fixes each time a particular problem or issues arise that consumers end up paying more. In fact, as we are seeing now, even when the market does work, favoring lower price generation sources and bringing overall prices down, the generators faced with those lower prices then seek changes to undo the market results.

Rather than leveling the playing field, these efforts raise the entire playing field so that everyone pays more. We do have a strong independent market monitory at PJM, and the access and independence of the market monitor is essential, not only to protect competition, but also to foster confidence in the markets by regulated entities and the public.

At FERC, nearly all proceedings are conducted on paper with limited opportunity for public input. There is generally no opportunity for cross-examination on factual issues and no oral argument on legal or policy issues. Consumers need real representation at FERC to protect their due process rights. Increase transparently and more opportunity for public participation would advance that important directive.

There is a bill pending, H.R. 2656. There are also some provisions existing in the Federal Power Act, to create an office of consumer advocacy at FERC, and that would also provide intervenor funding. This legislation should be supported and it is supported by us, and I hope that you will support it as well. Thank you for the opportunity.

[The prepared statement of Ms. Brand follows:]

"Powering America: Consumer-Oriented Perspectives on Improving the Nation's Electricity Markets"

October 5, 2017

Before the Subcommittee on Energy
House Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC

Testimony of Stefanie A. Brand, Director
New Jersey Division of Rate Counsel

Summary of Testimony

- Consumer advocate participation at the RTOs is difficult due to the resources needed for meaningful participation. Advocates have come together to obtain stable sources of funding and increase their participation, but the process by which RTOs consider transmission projects and market mechanisms should still be improved to increase transparency and consumer advocate participation.
- RTOs should give greater consideration to costs as part of their analysis of transmission projects and market mechanisms and should incorporate in-depth consideration of the reasonableness of costs into their mission.
- Efforts should be made to minimize administrative rule changes and maximize competition in the capacity market, and resist efforts to direct the market results to non-competitive outcomes. Effective and independent market monitoring is an important part of maintaining competitive outcomes in the market.
- The FERC process is also opaque and does not provide sufficient consumer participation and due process protections. Congress should pass H.R. 2656 (S.1240) which would create an Office of Consumer Advocacy at FERC and provide for intervenor funding.

Good Morning Chairman Upton, Ranking Member Rush and distinguished members of the Subcommittee. My name is Stefanie Brand and I am the Director of the New Jersey Division of Rate Counsel. Rate Counsel is a state agency designated by our Legislature to represent utility customers of all sizes – residential, commercial and industrial – on both the state and federal levels. We participate extensively in matters and proceedings at PJM Interconnection, as well as at the Federal Energy Regulatory Commission (FERC). In addition, I am an Executive Committee member of the National Association of State Utility Consumer Advocates (NASUCA), an association of agencies in over 40 states and the District of Columbia, whose members are charged by statute with representing utility consumers.

I very much appreciate the opportunity to appear before you today to talk about the role of consumer advocates at the Regional Transmission Organizations (RTOs) and at FERC. Our office, and other members of NASUCA, have been actively involved in pressing for greater consideration of the needs and interests of consumers in the federal electricity markets and in transmission planning and cost allocation. It has been a long, uphill battle. We have had some successes but

there is a very long way to go and we very much appreciate the attention of this Subcommittee to this very important topic.

At PJM, the sheer number of issues and meetings makes it very difficult for consumers to participate. The stakeholder process in which issues are considered and proposals are formulated is extremely complex and requires attendance at many meetings mostly at PJM headquarters in Valley Forge, PA. By way of example, in September there were 44 meetings over 22 days. In August, there were 45 meetings over 21 days. While most of these meetings are accessible by phone or webinar, as in many arenas much of the work takes place on the sidelines or in the hallways making physical attendance a priority, if not a necessity. This can be a tremendous strain for resource-strapped agencies like ours, and even more so for state consumer advocates who must fly to get there. The consumer advocates within the PJM footprint have attempted to deal with this by working together. We formed a group called the Consumer Advocates of PJM States (CAPS) that allows us to pool our resources so that we speak together with a stronger voice. We have an Executive Director who is present at the most important meetings representing us as a group, and individual offices are stepping up efforts to vote, participate and speak up in the PJM stakeholder process. CAPS also facilitates education and information sharing so that we are better able to

keep track of all of the meetings and proceedings that are going on simultaneously. Even with this increased focus, our participation is limited and is certainly less than the other sectors at PJM.

CAPS was formed and received a stable source of funding after several years of trying. An initial vote by the members of PJM to fund CAPS through the PJM tariff was rejected, even though the cost would be less than a penny per year for residential customers. The fact is that there was, and still is, resistance to having a greater voice for customers. While PJM was receptive to the idea and tried to help us, given the structure of PJM and sector weighted voting process, our efforts were brushed aside. It was only with the support of our states and money from an enforcement settlement at FERC that was earmarked for customer related projects, that we received a few years of funding and were able to start work. CAPS then established itself as a beneficial partner in the process, so much so that that the next time CAPS funding came before the PJM membership, it was overwhelmingly approved.

My understanding is that in other RTOs, such as the Midcontinent Independent System Operator, or MISO, even less progress has been made. In MISO, funding is available to state consumer advocates only to reimburse for MISO-related travel expenses. That funding comes from the Organization of

MISO States, which is made up of state commissions within the MISO footprint, who stepped in when efforts by the consumer advocates to obtain stable funding were opposed by the transmission owners.

There are a few potential solutions to the difficult task of increasing consumer participation at the RTOs. The first would be to identify and make available sources of funding for groups like CAPS. Generally the amount that would be needed is so small that it would be a minuscule component of the RTO tariff. As I mentioned, CAPS funding amounts to about a penny a year for a residential customer, and the benefit that customer receives is much greater.

In addition to funding mechanisms, consumer participation at the RTOs could be improved if consideration of the interests of consumers was made a more central part of the mission of the RTOs. Ensuring that rates are just and reasonable is certainly an essential goal of the Federal Power Act. It should also be a critical component of the analysis for those charged with implementing the Act. Consideration could also be given to having consumer interests represented on the RTO Board, or at least to having a designated consumer liaison among the Board members. Even if only one member of the Board had familiarity with the concerns of consumers it would go a long way toward bringing those concerns into the conversation.

While CAPS represents a significant step forward, consideration of the interests of consumers remains inadequate. PJM's primary function is to keep the lights on, and it freely admits that it does not necessarily factor in the ultimate costs when putting forth proposals or approving projects. While we certainly share PJM's interest in keeping the lights on, we believe that costs should be taken into account early in the process so that customers get the service they need but at a just and reasonable price. There is some progress being made, such as FERC's Order 1000 that seeks to introduce competition into the selection of transmission projects, but there is currently no institutional mechanism for a comprehensive review of costs in the transmission planning and market oversight process at PJM. Once the PJM stakeholder process concludes and PJM files its proposed tariff changes at FERC, the burden of demonstrating that the proposed tariff changes are unreasonable falls to the challenger, who only has 20 days to respond. It is therefore difficult to undertake an in-depth review of cost considerations at that juncture. This failure to adequately consider costs early enough in the process is something that needs to change to make the system work better for consumers.

With respect to the markets, competition should keep prices at a reasonable level. I do believe that competitive markets work and that New

Jersey's ratepayers have benefitted from the State's participation in the federal electricity markets. However, as time has gone on there have been more and more administrative changes to the market rules so that, with respect to the capacity market at least, it is so administratively driven that it is difficult to call it a market. At any given time at PJM, there are multiple proceedings to examine market changes. In fact, since 2010, there have been 27 significant filings made to modify RPM. There have been rule changes in just about every annual auction since 2007 when the Reliability Pricing Model was put in place for PJM's capacity market.

What is the impact of this for consumers? First, the system is so opaque and confusing and constantly changing that the average consumer will never make sense of it. Even some of the largest consumers who do participate directly at PJM and consumer advocates whose job it is to pay attention and monitor these markets have difficulty understanding the many rules and revisions to those rules. In New Jersey, generation and transmission costs, which flow through PJM, account for nearly 60% of a customer's bill, and there really is no way for customers to understand how those costs are derived.

Second, the complexity of the rules I believe leads to higher prices. There are so many "fixes" each time a particular problem or issue arises, that consumers

end up subsidizing virtually everyone. In fact, as we are seeing now, when the market does work, favoring lower priced generation sources and bringing overall prices down, the unsuccessful bidders and generators faced with lower prices then seek changes and subsidies to undo those market results. Rather than leveling the playing field among market participants, these efforts raise the entire playing field so that everyone pays more.

This is one of the reasons why retail prices appear to be staying flat even though we are relying more on inexpensive gas generation. In addition, on the state level utilities view reductions in the cost of generation as "headroom," allowing them to propose other initiatives to be paid for with the savings. In New Jersey, we have certainly seen some reductions in our gas prices and heating costs, but not as much as you might expect given the increased reliance on cheaper natural gas. It may be useful to explore other sources of funding, such as federal grants for grid modernization, to reduce this additional spending and return the "headroom" to customers.

We do have a strong Independent Market Monitor (IMM) at PJM who diligently works to keep the markets competitive. In many instances it is only the intervention of the IMM that ensures competitive market outcomes. But it is a battle for him as well. I cannot stress enough the importance of independent

monitoring of these markets. The RTOs themselves are private corporations governed by their Board but beholden to their members, who for the most part are transmission owners and generators who join the RTO voluntarily. There are those within PJM who would seek to limit the IMM's access and authority which would undermine his effectiveness. The access and independence of the market monitor is essential not only to protect competition, but also to foster confidence in the markets by regulated entities and the public.

The process at FERC is not much more consumer friendly. Nearly all proceedings are conducted on paper, with limited opportunity for public input. Evidentiary and public hearings are rare. The process consists of each side filing briefs and then at some point an Order is issued. There is no opportunity for cross-examination if factual certifications are submitted and there is no oral argument on the legal or policy issues. An application for rehearing is required before an appeal can be taken and even though the statute provides a deadline by which the agency must act on the petition for rehearing, FERC often grants the rehearing request to satisfy that deadline but then fails to take any further action for long periods of time. This serves to delay the ability of objectors to be heard in court and the delay often effectively denies relief as there is rarely a stay in place while the rehearing is pending.

Consumers need real representation at FERC to protect their due process rights and seek redress. Increased transparency and more opportunity for public participation at FERC would advance that important objective. There is a bill pending H.R. 2656 (S.1240) sponsored by Congresswoman Schakowsky that would create an Office of Consumer Advocacy at FERC and provide for intervenor funding. We support this legislation and think a FERC-level version of CAPS will provide much greater opportunity for consumers to be heard. In addition, we believe legislation requiring greater public participation and transparency in FERC proceedings is long overdue. We would also urge you to develop and support such legislation.

To summarize, I urge you to consider the following:

- Establish stable funding mechanisms for consumer advocate organizations to participate in stakeholder processes at the RTOs;
- Make consideration of the reasonableness of costs part of the RTO's mission and consider requiring that at least one member of each RTO Board be a representative of or liaison to consumer interests;
- Explore ways to minimize administrative rule changes and maximize competition in the capacity market, and resist efforts to direct the market results to non-competitive outcomes;
- Mandate effective and independent market monitoring in all RTOs;
- Support H.R. 2656 and other efforts to increase transparency, consumer participation and due process protections at FERC.

Thank you again for the opportunity to testify today. I would be happy to answer any questions you may have.

Mr. UPTON. Thank you. We will now take a recess. It will probably be 30 to 40 minutes long while we have the votes. So I would tell Members we have 6 ½ minutes left in the vote series.

[Recess.]

Mr. OLSON [presiding]. We will come to order. And as we go through our statement by witnesses, we have one more to go. We saved the best for last.

Mr. Slocum, you have 5 minutes, sir.

STATEMENT OF TYSON SLOCUM

Mr. SLOCUM. Absolutely. Thank you so much, Mr. Chairman.

So I am Tyson Slocum, and I am the energy program director for Public Citizen. Public Citizen is a national, not-for-profit, membership-based group. We have got over 400,000 members and supporters across the United States, many of whom live in FERC jurisdictional markets and pay energy prices that are set in those markets.

We see that consumers are facing three broad threats in today's power markets. First is that there are political and regulatory efforts by owners of what we see as mismanaged and uneconomic generation assets seeking billions of dollars in bailouts, whether that is through the Department of Energy's cost of service proposal or whether it is through market tweaks as was discussed before with the various RTO capacity markets. This is a huge threat to consumers.

Second, the regional transmission organizations were really designed to accommodate the interests of transmission owners and generation owners. And they oversee a complex stakeholder process where details of market rules are deliberated and largely written. And this is a process that does not include the public interest very well, and there needs to be fundamental reforms to the way that those regional transmission organizations administrate those stakeholder processes.

And, third, it has now been 577 days since the Federal Energy Regulatory Commission has failed to respond to a proposed rulemaking to create and fund the office of consumer advocate that—the office of public participation that, among other things, could provide intervener compensation to members of the public who meaningfully contribute to FERC dockets. And so addressing these three things is paramount in order to ensure that consumers are being adequately protected in markets.

So first I think it is important just to note that we are in the midst of a remarkable transition in America's energy markets that is really being driven by innovations in the production, transmission, and consumption of electricity.

And there are three factors that are contributing to those innovations. One is just the proliferation of inexpensive renewables, especially utility scale. Second is continuing flat-lining demand. And especially when you factor in economic growth, demand is actually decreasing as a share of American economic output. And second is cheap natural gas.

And those three innovations are providing lower costs, more resiliency, and more sustainable energy systems and are absolutely benefiting consumers. But with any sort of disruptive transition,

you are going to have economic losers. And those economic losers right now are predominantly mismanaged and not well run nuclear and coal base load units that frankly cannot effectively compete against superior competition.

And throughout history, we see decisions that are made by industries. Either you improve efficiencies and compete with your rivals, or you turn to Government institutions or regulatory agencies and attempt to get bailouts for your inefficient operations. And that is really what this Department of Energy bizarre rulemaking before FERC is about. It is about accommodating and prioritizing these inefficient base load nuclear and coal generation units.

And you don't have to take my word for it that there's no crisis of reliability from the retirement of nuclear and coal plants. That is what the North American Electric Reliability Corporation has concluded. That is what the Department of Energy's own August staff report, that there is no reliability crisis. That, in fact, we are seeing resiliency and reliability benefits from the energy transition that we are seeing to renewables and lower demand.

The thing on RTO reform that needs to happen in order to protect consumers, I think that Congress and FERC needs to contemplate whether or not we need to split the regional transmission organizations in two, retain their function as the physical operator of the bulk power market, but separate out from the RTOs the job of administrating the stakeholder process where tariffs and market rules are developed.

And the third thing that can be done to protect consumers is for Congress to start weighing in and get FERC to support the proposed rulemaking to create and fund the office of public participation, including providing intervener funding to the public.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Slocum follows:]

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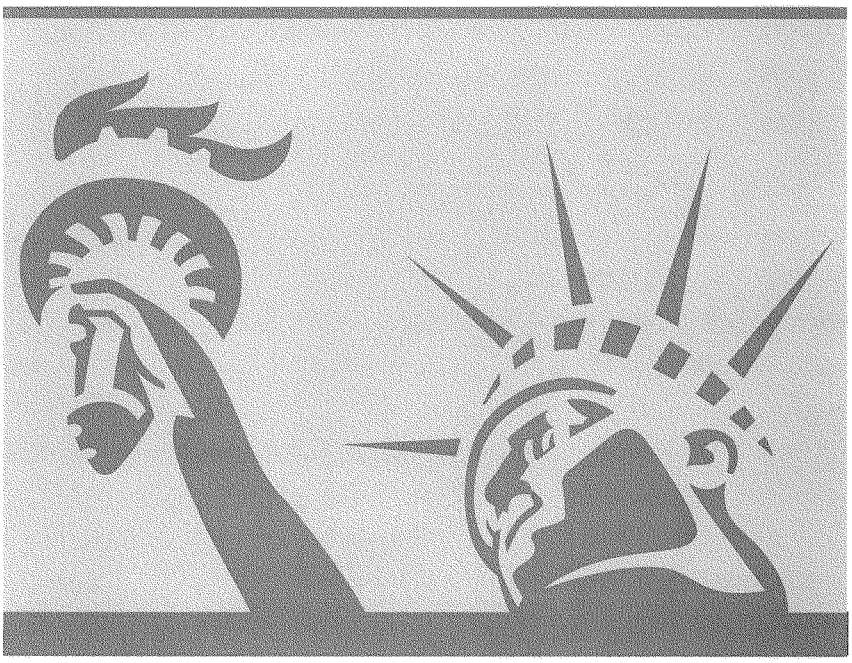

Powering America: Consumer-Oriented Perspectives on Improving the Nation's Electricity Markets

Testimony of Tyson Slocum, Director
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Before the U.S. House Energy and Commerce Committee
October 5, 2017

About Public Citizen

Public Citizen is a national nonprofit organization founded in 1971 with more than 400,000 members and supporters across the United States. We represent consumer interests through lobbying, litigation, administrative advocacy, research, and public education on a broad range of issues including affordable and sustainable energy markets, climate change, consumer rights in the marketplace, product safety, financial regulation, worker safety, safe and affordable health care, campaign finance reform and government ethics, fair trade, and corporate and government accountability. Detail on our work and accomplishments, including financials that we report to the Internal Revenue Service, is found at *citizen.org*.

Tyson Slocum is director of Public Citizen's Energy Program, covering the regulation of petroleum, natural gas and power markets. Tyson serves on the U.S. Commodity Futures Trading Commission's Energy & Environmental Markets Advisory Committee, and frequently intervenes before the Federal Energy Regulatory Commission representing the interests of household consumers. Tyson presents his research in Congressional testimony and appears regularly in the media, including guest appearances on *The Colbert Report*. Tyson is a member of the faculty at the University of Maryland Honors College, where he teaches energy and climate policy. Prior to joining Public Citizen in 2000, Tyson served as an analyst with the Institute on Taxation & Economic Policy.

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Introduction

America's electricity markets are in the midst of a remarkable and profound transition driven by innovations in the production, transmission and consumption of power. The three key factors triggering these advances are the proliferation of inexpensive renewable energy and the rise of energy storage; flat-lining demand since 2007 due to energy efficiency, smart technologies and other developments; and cheaper natural gas. These combined forces are rendering older nuclear and coal-fueled power plants uneconomic. It is important to note that, contrary to pronouncements by members of the Trump Administration, these developments do not harm consumers or reliability/resilience. In fact they lower costs and reduce boost resilience, in no small part by curbing greenhouse gas pollution from the power sector.

For the most part, this revolution is the result of factors far outside the complex and ever-changing rules implemented by the Federal Energy Regulatory Commission and the various private Regional Transmission Organizations. The significant growth of renewables has less to do with RTO tariffs and more to do with three initiatives: twenty years of state renewable mandates[1]; corporate procurement of utility-scale renewable development[2]; and retail-level distributed generation incentives. These three influences provided the platform for renewable energy gaining a market foothold, and now utility-scale wind and solar are often the cheaper option in many utilities' integrated resource plans.[3]

To be clear: consumers benefit from a transition to greater utility-scale renewable generation when that resource is low-cost and when those low costs are reflected in retail rates. The triple-threat to consumers is political efforts by owners of mismanaged and uneconomic generation seeking subsidies; Regional Transmission Organizations constructed to serve transmission and generator interests at the expense of the public interest; and a FERC that fails to uphold just and reasonable rate design, oversight and enforcement.

Public Citizen offers three proposals to protect consumers going forward. First, any federal or state efforts to force consumers to pay for uneconomic baseload generation cannot be

[11] *U.S. Renewables Portfolio Standards: 2017 Annual Status Report*, Lawrence Berkeley Lab, https://emp.lbl.gov/publications/us-renewables-portfolio-standards-0

[2] *Corporate procurement rivals policy in driving growth of renewable energy*, Deloitte, www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-corporate-procurement-renewable-energy-report.pdf

[3] It is important to note that utility-scale renewable resources are referenced here. While cost declines for rooftop solar have been significant and impressive, such resources are not yet cost-competitive with most incumbent generation.

considered just and reasonable. Second, Reginal Transmission Organizations have proven to be unresponsive to the needs of the public interest, and therefore fundamental reforms to their governance—including separating the RTO functions of bulk power market management and their administration of stakeholder processes where tariffs and market rules are developed—must be considered. Third, FERC must create and fund the Office of Public Participation to provide intervenor compensation in order to improve public interest participation in FERC actions.

I. Disruptive Challenges Send Economic Losers Scrambling for Political Interference

History is punctuated by social and economic change triggered by technological innovation and deployment. Incumbent industries with accumulated financial and political resources gained from years of market dominance that are suddenly challenged by disruptive advancements typically respond not by innovating but rather by employing political institutions under their influence to stymie new entrants in an effort to prolong their control of market share.

Trump Administration officials—who have aggressively pushed a false narrative that the retirements of uneconomic nuclear and coal baseload units present reliability and resiliency risks—appear to understand this better than most, as the Department of Energy leapt into the fray with a remarkable, unprecedented and radical wholesale power market rewrite that would force consumers to bail out dozens of uneconomic nuclear and coal power plants at a cost of billions of dollars.[4]

Even more shocking than the Department of Energy's proposal is FERC's response to fast-track its consideration,[5] with its order giving the public only 21 days to provide initial comments on the DOE rulemaking.

In a June 2017 filing, Public Citizen raised explicit concerns about the Trump Administration interfering with the historical independence of FERC to force the Commission to accept massive ratepayer funded subsidies for uneconomic nuclear and coal generation: "we have concerns that the Trump Administration's designation of the Chairmanship will be tied to the Administration's prioritization of wholesale power market design to subsidize uneconomic nuclear, coal and natural gas generation."[6]

[4] https://energy.gov/downloads/notice-proposed-rulemaking-grid-resiliency-pricing-rule
[5] Docket No. RM18-1, issued October 2, 2017,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20171002-3039
[66] Docket No. AD17-11, at page 5, https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14620874

Congress must send a clear message to FERC that 21 days to consider such a fundamental change in power markets is completely insufficient, and that Commission must grant at least 60 days for the public to review and consider the proposal.

That said, the proposal would alter existing RTO tariffs. But under Section 206 of the Federal Power Act, existing rates and tariffs cannot be changed unless FERC finds that the existing RTO market tariff is unjust and unreasonable, or unduly discriminatory or preferential. The DOE proposal has made no effort to document or prove that current RTO markets are unjust and unreasonable, and the structure of their proposal—establishing arbitrary on-site fuel supply requirements—appear to be both discriminatory and preferential.

DOEs proposal demands "immediate action" to address the "crisis at hand" and that the "loss of fuel-secure generation must be stopped." This reads more like a President Trump Tweet than a reasoned, serious policy proposal, as there is absolutely no crisis whatsoever regarding the retirements of uneconomic baseload nuclear and coal power plants. The owners of these plants may consider it a crisis that they're not making the money they promised to their shareholders, but that is of no concern to consumers or to FERC's mandate that rates be just and reasonable.

Indeed, the CEO of the North American Electric Reliability Corporation (NERC) told Congress in September that "[e]ven with all the changes underway, the bulk power system (BPS) remains highly reliable and resilient, showing improved reliable performance year over year."[7] Furthermore, the NERCs *State of Reliability 2017* identified no "crisis" of reliability or resiliency from expected nuclear and coal baseload retirements.[8]

The U.S. Department of Energy's own August 2017 *Staff Report* concludes that "... BPS [Bulk Power System] reliability is adequate despite the retirement of a portion of baseload capacity and unique regional hurdles posed by the changing resource mix."[9] There is no crisis requiring emergency FERC action.

The DOE rulemaking request argues that wholesale power markets are not adequately pricing the "resiliency attributes" of "fuel secure" generation. DOE then proposes to guarantee full cost-recovery for units that can demonstrate a 90-day on-site fuel supply, as the DOE claims that the continued operation of such units is essential for grid resilience.

[7] www.nerc.com/news/Documents/HEC9-14-17%20Cauley%20Testimony%20Final.pdf
[8] www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/SOR_2017_MASTER_20170613.pdf
[9] Page 11,
https://energy.gov/sites/prod/files/2017/08/f36/Staff%20Report%20on%20Electricity%20Markets%20and%20Reliability_0.pdf

Conveniently for the nuclear and coal industries, only their units would qualify for such bailouts. Coal-fired power plants typically have such on-site reserves of coal piled next to their generation units, and nuclear power plants have onsite nuclear fuel to meet the standard.

Recent events contradict this arbitrary standard. Hurricane Harvey, which made landfall on coastal Texas in August 2017, dumped so much rain that "[t]he external coal pile at [NRG's] W.A. Parish became so saturated with rainwater that coal was unable to be delivered into the silos from the conveyer system. In response to that situation, we transferred W.A. Parish Unit 5 and Unit 6 to natural gas rather than coal as the fuel source. These units haven't used natural gas for operational purposes since 2009."[10] Having a 90-day on-site fuel source is therefore not an adequate measure of reliability or resilience.

Nuclear power and its on-site fuel supplies fare even worse during major storm events. Before Hurricane Irma even made landfall in Florida on September 10, 2017, both of the state's nuclear power plants—Turkey Point and St. Lucie—were forced into unscheduled outages. And the U.S. Energy Information Administration noted that the state's rapid recovery from Irma was due not to the presence of nuclear power plants, but rather due to investments made in smart grid technology and replacing wooden poles with concrete.[11] This same EIA analysis attributes these upgrades with the significantly improved recovery in Florida from 2017's Irma compared to 2005's Wilma—and it is important to note that in 2005 nuclear power generated 13.1% of the state's power, compared to 11.8% in 2015. As Florida became less reliant on nuclear power, it recovered post-hurricane faster.

It is of concern that the DOE is focusing on the reliability and resiliency attributes of individual classes of generation units instead of the system as a whole. Indeed, the Rocky Mountain Institute notes that evolving power markets do not require baseload, and the group posits that reliability is a system attribute, and not a unit attribute requiring baseload.[12]

That said, studies now show that replacing older baseload generation with renewables, efficiency and other distributed generation resources provides greater reliability and resilience at lower costs.[13]

[10] www.platts.com/latest-news/electric-power/houston/harveys-rain-caused-coal-to-gas-switching-nrg-21081527
[11] www.eia.gov/todayinenergy/detail.php?id=32992
[12] *The Grid Needs a Symphony, Not a Shouting Match*, June 12, 2017, https://rmi.org/news/grid-needs-symphony-not-shouting-match/
[13] *The Importance of Distribution-Scale Solar for Grid Resilience*, Rocky Mountain Institute, September 22, 2017, https://rmi.org/news/importance-distribution-scale-solar-grid-resilience/

Earlier this year, the U.S. Energy Information Administration noted that 2016 experienced the largest *net* increase in generation capacity since 2011. That means baseload retirements are being more than offset by new renewable and natural gas capacity additions.[14] There is no crisis requiring emergency FERC action.

When faced with market adversity, companies must innovate, optimize efficiencies, or declare bankruptcy. It is not the job of the consumer to open their bank account to pay for energy executive's inability to manage risk—in fact, FERC's entire market-based rate experiment is premised on freeing consumers from being on the hook for companies' failure to innovate. FERC's market-based rate experiment was a compact with consumers: corporations would be allowed to charge higher rates based upon whatever the market would bear in exchange for exposing companies and shareholders to risk. The nuclear and coal industry push to bail out their generation investments looks like they don't have much appetite for that risk part—and I'm here to tell you that neither do household consumers.

Consumer-funded bailouts of merchant generation are particularly egregious when one evaluates the poor executive management that contributed to the uneconomic performance of certain coal and natural gas generation. Both publically-traded and private equity power plant owners have engaged in aggressive, highly-leveraged strategies to acquire large fleets of coal and natural gas generation units that have rendered the companies unable to respond to increased competition. For example, *The Wall Street Journal* reported that one Independent Power Producer, Dynegy (a company under active investigation for market manipulation[15]), is saddled with $9 billion in debt "which has become a burden" on the company's ability to adjust to competitive wholesale markets.[16]

Other large IPPs are also highly leveraged: both NRG and AES are carrying $20 billion apiece in debt, while Calpine bears $13.5 billion. FERC should not be re-writing market rules to bail out highly-leveraged, poorly run power companies. Generators need to live within their means, and learn how to compete with more nimble competition.

But it's the utilities like Exelon and Dominion with nuclear power plants seeking handouts that is truly outrageous. In every instance involving every merchant nuclear power plant, ratepayers already paid for these power facilities. All merchant nuclear power facilities in the United States were built and paid for under cost-of-service regulation. When some states restructured the electric industry in the mid- and late-1990s, many utilities with

[14] *U.S. electric generating capacity increase in 2016 was largest net change since 2011*, February 27, 2017, www.eia.gov/todayinenergy/detail.php?id=30112

[15] FERC Docket No. IN15-10

[16] Matt Jarzemsky and Dana Mattioli, "Vistra Energy Makes Takeover Approach to Rival Power Producer Dynegy," May 18, 2017.

nuclear units sold them either to other companies or to affiliates at below-market prices. In every instance, the state restructuring required consumers to pay the difference between the sales price and the remaining cost-of-service debt still on the utility's books, known as the *stranded costs.*

Newly divested nuclear units quickly were able to earn huge profits from the onset of state restructuring until the fracking boom began in 2008-09. Pre-fracking, natural gas prices were volatile, expensive and set the marginal price in RTO markets. Nuclear units at the time had lower costs than the gas-set high marginal price, and were, in the words of Halliburton's CEO, "printing money like crazy." Indeed, in just one example, then-Connecticut Attorney General Richard Blumenthal estimated that Dominion's two merchant nuclear power plants in the state had earned an annual profit margin of 44% and 53%, respectively.[17] Exelon or Dominion were not demanding to redesign wholesale power market rules when the companies were earning windfall profits on the same facilities that now are struggling against cheaper competition.

Public Citizen made this case when we opposed New York's absurd bailout of the state's upstate nuclear power plants:

> *...the biggest transition [in utility restructuring] was the assumption of risk: in the old, vertically-integrated model, electric utilities were franchised monopolies that had their profits tightly-regulated. This eliminated the ability to earn windfall profits, but it also jettisoned shareholder risk, which is why utilities were known for decades as safe, predictable investments for "widows and orphans." To be sure, inefficiencies abounded under this monopoly system particularly if state regulators did a poor job controlling costs or making poor long-term strategic decisions [see, for example Kemper and Vogtle]. But ratepayers were guaranteed electric rates directly tied to the cost of producing and delivering it, and utility shareholders were guaranteed a risk-averse investment. And, importantly, reliability was ensured under the old vertically-integrated model because the utilities had a legal obligation to serve their customers...[state restructuring replaced] the legal obligation to serve with a market-based, incentive approach to ensuring reliability. Power sellers were, for the first time, offered an opportunity to earn windfall profits, and in exchange they were supposed to invest those record earnings into new capacity investments in order to continue to earn long-term profits. Reliability would be incentivized with the lure of more profits to those that invested...It is, to put it mildly, an outrage to have allowed these companies to earn unregulated profits for years when market conditions were conducive for it, and then redesign the rules when market conditions change and transfer risk away from shareholders of the power plant owners and onto...captive...ratepayers."*[18]

[17] Patricia Daddona, "State Attorney General Blumenthal targets electricity costs," *The Day* (New London, CT), February 23, 2006.

[18] *Comments of Public Citizen, Inc.*, New York Public Service Commission, Case Number 15-E-0302, July 22, 2016.

The point of this history lesson is not to wax poetic about the good old days cost-of-service regulation, but rather to point out just how shameful it is for "market" advocates and self-interested companies to push FERC for billions of dollars in bailouts after earning such handsome unregulated profits for so many years. **It is not just and reasonable to allow unregulated profits when market conditions are conducive for it, and then force ratepayers to fund expensive "market fixes" to shoulder these same companies' risks.**

II. The RTOs Are Political Entities Designed to Serve Entrenched Economic Interests

When FERC embarked on its administrative experiment in competitive markets in the 1990s by authorizing entities to charge market-based rates (rather than the cost-of-service rate that had prevailed for a century), the Commission quickly realized that it needed additional structures to assist in price formation and operations. In December 1999, FERC issued Order 2000 which called for the voluntary creation of Regional Transmission Organizations. RTOs are not a creation of Congress but rather fashioned administratively by FERC, which is the primary reason they are voluntary organizations. Since Order 2000, FERC has granted sweeping Federal Power Act authorities to the five RTOs under its jurisdiction, including the management of their "stakeholder" process where market rules and tariffs are developed. The RTOs have evolved into political organizations significantly influenced by the incumbent generators and transmission owners.

One fascinating example involves the about-face PJM performed in the wake of the 2014 Polar Vortex. On May 15, 2014—shortly after the reliability disruptions of the Polar Vortex—PJM wrote to FERC:

> *PJM is meeting reliability objectives by developing the resource portfolio mix that results from government policy directives at the state and federal level as well as the economics of competing resource options. The Commission's support of PJM's capacity market construct and the various recent reforms submitted by PJM have served as a valuable tool that enables PJM to specifically identify the resources available to meet future demand over the next three-year period.*[19]

Later that year, the capacity auction saw disappointing financial returns for nuclear generators like Exelon. An executive with the company did an interview with its trade

[19] FERC Docket No. AD14-8.

association the Nuclear Energy Institute on June 12, 2014, where the company complained that PJM's capacity market wasn't making the company enough money, and that major changes were needed.[20]

All of a sudden, just one year after PJM boasted how its capacity market design was "meeting reliability objectives,"—and after loud protests by one of PJMs most powerful members, Exelon—PJM entertained FERC with a completely different story in 2015:

> *[the PJM capacity market, or Reliability Pricing Model] RPM's current capacity market performance incentives and requirements are weak, and therefore require immediate reform...[if PJM's requested capacity market reforms are not adopted] it would mean that the PJM Region would let five more winters pass after 2014 without implementing a full remedy to the manifestly deficient performance requirements in the current rules.*[21]

How on earth did PJM whipsaw from boasting in 2014 how fantastic its capacity market was working to ensure reliability, to just one year later describing them as weak? Because PJM, like the other RTOs, are highly susceptible to the corrosive self-interest of its powerful utility and generator members at the expense of the public interest and consumers.

While obviously the DOE *Grid Resiliency Pricing Rule* has grabbed the headlines, less attention has been paid to the fact that multiple RTOs are already at an advanced stage of proposing their own versions of the DOE rulemaking, again at the behest of powerful corporate RTO members. PJM was first out the gate with its memo advocating wholesale market changes echoing Perry's flawed assumptions. On June 15, 2017, PJM management produced a report, *Energy Price Formation and Valuing Flexibility* that advocates for "fundamental" changes in "price formation", including "Refining locational marginal price (LMP) formation to recognize the contribution of all resources, including large, inflexible units (often referred to as "baseload" resources)" and to address "the pernicious effect" cheap and efficient renewable energy "may have in hastening the premature retirement of economic thermal generation, whose continuing operation is needed to meet capacity requirements and provide reliability services to accommodate for the intermittency of renewable generation."[22] PJM offers no data or proof to support this radical premise that consumers need to bail out inefficient generation to ensure reliability. But such a proposal is exactly in line with Exelon's demands to bail out its uneconomic nuclear power plants.

[20] www.nei.org/News-Media/News/News-Archives/Exelon-on-the-2014-PJM-Capacity-Market-Auction
[21] FERC Docket No. ER15-623, filed April 10, 2015.
[22] At Page 1, www.pjm.com/~/media/library/reports-notices/special-reports/20170615-energy-market-price-formation.ashx

Imagine an alternative reality in which the discussion was: *Gosh, Steve Jobs and Bill Gates and their newfangled computers have the "pernicious effect...in hastening the premature retirement of economic" typewriter manufacturing.*

PJM, like the other RTOs, preside over a vast and highly complex "stakeholder" process. PJMs stakeholder process has at least 47 different Committees, Subcommittees and Task Forces where market reforms are proposed, debated, and voted upon for ultimate submission to PJMs Board to then send to the Commission for approval into regulation and law. Each year, there are hundreds of such meetings that require significant financial and human resources to meaningfully participate.

One of PJMs newer stakeholder groups is the Capacity Construct/Public Policy Senior Task Force, which PJM helpfully refers to as CCPPSTF.[23] One can peruse historical meeting minutes of this stakeholder group, which provide cursory information about what transpired in these electricity policy planning incubators. One detail that can be reviewed are the list of names and affiliations of participants in these meetings—a roster that is overwhelmingly comprised of power company executives, lobbyists and lawyers. Indeed, one of its recent meetings featured only three non-governmental public interest advocates (NRDC, Union of Concerned Scientists and Environmental Law & Policy Center). But it actually doesn't matter if there were three public interest attendees or 300, because PJM does not allow any non-governmental public interest groups the right to vote in any stakeholder process. So public interest groups can spend their limited resources developing proposals and making impassioned arguments, and only energy companies and other PJM members have the ability to vote on a proposal to advance the offer from the RTO to FERC.

The RTOs are therefore a venue where corporate lobbyists serve as *stakeholder administrators* to manage and shape tariff proposals that become law. At the same time, public interest advocates are barred from voting within PJM, creating the situation where corporations are granted wide access to shape our electricity laws while the public interest is shut out.

The corporate dominance of the stakeholder process extends to RTO management. Since all RTOs are membership organizations, they must be responsive to their members. And the most powerful, well-funded and well-organized members in the RTOs are energy companies. It is therefore little surprise that RTO management proposals tend to reflect the financial interests of those powerful and influential members. As a result, RTO

[23] www.pjm.com/committees-and-groups/task-forces/ccppstf.aspx

management ends up serving as a tool of advocacy on behalf of incumbent energy companies.

Even assuming that public interest groups could vote in PJMs stakeholder process, they would be diluted with other end users into a voting block that could garner no more than one-fifth of the eligible votes. That's because PJM, like the other RTOs, created arbitrary voting sectors that assign entities into five different voting blocs: Transmission Owner, Generation Owner, Other Supplier, Electric Distributor and End User.[24] These sector voting classifications in no way resemble the true market representation for the entities; Rather, the voting sectors appear to be designed for the primary purpose of expanding the voting power of Transmission Owners and Generators, and diminishing the voting power of end users.

More egregious than PJM's discrimination against the public interest is FERC's continued tolerance of it. **No market reform developed by discriminating against the public interest should be considered to be just and reasonable.**

Federal courts have ruled that FERC possesses sweeping authority to impose governance reforms on RTOs. In *California Independent System Operator Corp. v. F.E.R.C.*, the DC Court of Appeals ruled that "[i]f FERC concludes that CAISO [an RTO] lacks the independence or other necessary attributes to constitute an ISO for purposes of Order No. 888, then it need not approve CAISO as an ISO...If California stubbornly refuses to make CAISO conform to FERC's requirements for ISOs, then FERC can declare that CAISO is not an ISO, or threaten to do so."[25]

The main question is whether RTOs should continue their dual role as both operator of the bulk power market *and* overseeing an internal administrative process to develop market rules and tariffs. The RTOs, with internal structures and alliances to transmission owners and generators, are simply too conflicted to be entrusted with overseeing a stakeholder process where electricity policy is developed. The goal should be separating the internal administrative process to a separate entity, or simply house that function at FERC.

Absent that separation, the following are other governance reforms in order to improve transparency and RTO governance:

- Grant public interest organizations full voting rights within an RTO stakeholder process and consideration of membership fee waivers.

[24] www.pjm.com/about-pjm/member-services/membership-and-sector-selection.aspx
[25] 372 F.3d 395 (2004), at Page 9.

- Provide intervenor compensation or other funding to assist with public interest participation in the RTO stakeholder process.
- Require RTO stakeholder meetings to be recorded, transcribed and freely available to the public.
- Representatives from law firms, consulting firms and other agents that are financially compensated to advocate for the interests of a client must publically disclose those clients when the agent participates in any stakeholder meeting.
- Adjust weighted sector voting ratios to more realistically reflect true stakeholder involvement in energy markets. For example, end users actually represent half of the energy system, and should therefore represent half of the weighted sector voting rights.
- Subject RTO operations to the federal Freedom of Information Act.
- Require stakeholders representing vested economic interests to fully disclose the impact of proposed tariff reforms on their company or client as prerequisite to voting on said reform.
- Limit RTO management role in stakeholder meetings; i.e. make stakeholder meetings truly independent from RTO management.
- Allocate RTO financial resources to stakeholders to fund studies, analyses, etc. to counter RTO management-funded studies.
- Designate at least one member of the RTO Board of Directors that is directly accountable to the public interest within the RTO geographic footprint.
- Disallow RTO management from bypassing stakeholders for FERC tariff and other market design proposals.
- Establish revolving door prohibitions on state utility regulators/utility executives from being employed by the RTO for at least two years.
- Conform RTOs compensation with federal GS guidelines in order to limit excessive RTO executive pay.
- Prohibit companies or other entities under RTO jurisdiction from serving as financial sponsors of special events or activities at RTO meetings.

III. FERC Must Create and Fund the Office of Public Participation

Five-hundred and seventy-seven days ago, Public Citizen joined with 30 organizations across the country to file a Petition for a Rulemaking for FERC to create and fund the Office

of Public Participation.[26] In 1978 Congress initiated sweeping changes to the Federal Power Act when it passed Public Law 95-617, the "Public Utility Regulatory Policies Act of 1978" (PURPA). Title II ("Certain Federal Energy Regulatory Commission and Department of Energy Authorities"), Section 212 ("Public participation before Federal Energy Regulatory Commission") of PURPA ordered the creation of an Office of Public Participation at FERC. Among the duties of the Office are to "coordinate assistance to the public," and the Office "may, under rules promulgated by it, provide compensation for reasonable attorney's fees, expert witness fees, and other costs of intervening or participating in any proceeding before the Commission to any person whose intervention or participation substantially contributed to the approval, in whole or in part, of a position advocated by such person."

Such an office, with the power to provide compensation to public interest intervenors, is needed today more than ever. As FERC contemplates sweeping changes to power markets, it is critical that public interest intervenors have a seat at the table alongside the better-funded generation and transmission owners.

Conclusion

America's electric power markets are in the midst of a transformation that is disrupting the economics of some merchant nuclear and coal fueled generation units. While this disruption is rendering these units to be uneconomic, consumers and system reliability benefit from these dynamic changes. Aggrieved owners of these power plants successfully advocated for the U.S. Department of Energy and RTOs to declare the markets to be in "crisis" requiring radical rewrites of wholesale power market rules. Public Citizen believes that any federal or state efforts to force consumers to pay for uneconomic baseload generation cannot be considered just and reasonable.

Furthermore, in the interests of maximizing consumer protections in U.S. power markets, fundamental changes to the way that the private Regional Transmission Organizations operate—including the consideration of a full separation between the RTO management of the bulk power market and its operation of internal administrative processes where tariffs and market rules are developed—must be considered. In addition, FERC must create and fund the Office of Public Participation to provide intervenor compensation for public interest participation in FERC actions.

[26] FERC Docket No. RM16-9.

Mr. OLSON. Thank you, Mr. Slocum.

Now it is fun time where Members get to ask 5 minutes of questions alternating between Republican and Democrat. And since I have the gavel now, I give myself 5 minutes for questions.

My first question is for you, Dr. Bowring. The DOE order tip to FERC on electricity markets to how we value resources has certainly sparked some conversations. It is something of a scramble among power generators and even large consumers. The most colorful descriptions I have heard came from our new FERC commissioner, Robert Powelson. He said, regarding concerns, if the rule does undue competitive markets, quote, "when that happens, we are done. I am done," end quote.

Wow. That is pretty strong.

Sir, I would like to share your thoughts on what is happening with larger and older power plants and PGM. Do you think the stress being faced by coal nuclear plants is a sign by flaw in the market or just market force at work, or a combination of the two?

Mr. BOWRING. I think it is entirely market forces at work. Despite some of the commentary, not all nuclear power plants are uneconomic. Some are uneconomic. To the extent that they are retained artificially in the market, they make other nuclear power plants as well as other coal plants worse off. So subsidies are counted on the market, they actually make the market work less well. And if you extend it even further, they will—as some have said, they will ultimately destroy the market. So it is about market forces. It is uneconomic resources being replaced by economic resources.

Mr. OLSON. Thank you.

Question for you, Mr. Vanderhelm, from Walmart. In your testimony, you gushed about my home State of Texas—I—appreciate that—and that Walmart has the goal of going 100 percent renewable. You talked about the example that you are contracted directly with winds farms in my home State. As you know, Texas, it is the number one State in American for wind. We are number one. Bigger, prouder, better.

Can you talk a little about your experience in choosing your own generation sources and why it is important to Walmart?

Mr. VANDERHELM. It is important for Walmart, first and foremost, because it is economic. The thing that I always make sure that people understand is, while Walmart has these aggressive renewable energy goals. I work for the part of the organization that is part of operations. So we are executing on that procurement based off of the economics associated with it. That is the first and foremost one.

Obviously, we see our mission as an organization is broader than just shareholder economics, and that enables us to also show the benefits to our associates, the customers as well, in terms of turning our portfolio greener.

Mr. OLSON. Thank you.

How do you balance your cost through generation purposes? How do you make that balance?

Mr. VANDERHELM. Sorry. How do we make the determination to—

Mr. OLSON. The balance between your cost—your generation preference, for example, wind power. How do you balance that here is our cost and just—any idea? Any insights on how you guys look at that?

Mr. VANDERHELM. Yes. Absolutely. We would always preferential—first of all, you know, something which is cheaper before—you know, before something which is more expensive. So, again, I think your question implies that somehow renewables are more expensive. I just want to make sure that, you know, that is a win-win. In other words, we are identifying both the greener power and cheaper power, we go down that path. We are moving as quick as we can in all parts of the country. Thanks to Texas for providing the construct that enables us to execute there quicker. But we are looking at doing it across the country. And we are constantly looking at green power which is more cost-effective than brown power.

Mr. OLSON. Well, thank you. I want to close the challenge for my friend from Massachusetts who is not here. So Ms. Tepper, you are from Boston; is that correct?

Ms. TEPPER. Yes, I am.

Mr. OLSON. OK. As you know, my colleague, Mr. Kennedy, knows, his Boston Red Sox, your Boston Red Sox, are in Houston, Texas, right now. They are about to be destroyed by my Houston Astros. The first pitch is at 4:08 Texas time. And you remember, just last week, my Astros played four games in Fenway Park. They were three Astro wins, one Red Sox win, outscored 24 to 13 over four games.

And so please pass on if you want participate in a little bet, a little friendly wager. If the Red Sox win, very unlikely, I will eat a big bowl of Massachusetts clam chowder with the press there. Chowder. But if my Astros win, as expected, you-all come down and have a big hot bowl of Texas chili with the press there. Is that——

Ms. TEPPER. Oh, we are on. That sounds great. Yes.

I look forward to you having some chowder.

Mr. OLSON. Without objection, so ordered.

Chowder.

All right, my time has now expired. I now call upon the gentleman from Illinois, the ranking member of the subcommittee, Mr. Rush, for 5 minutes.

Mr. RUSH. Is it chowder, chili service, or over?

Mr. OLSON. Oh, no. Just going to start. We are playing a five-game series with the Red Sox there. Houston Astros versus the Boston Red Sox, as I mentioned. We just closed out the regular season by going 3-1 in Fenway Park. It is bad news to the Red Sox. The Redcoats are coming, the Redcoats are coming.

But you have got 5 minutes, my friend.

Mr. RUSH. It is going to take me to 5 minutes to recover.

To all the panelists, I would like to quickly go down the line and ask who takes issue with the recent DOE NOPR on grid reliability pricing? Please give me a "yes" or "no" if you have a problem with the NOPR. And if so, is it based on process or on the substance or both?

Mr. BOWRING. Yes. I have an issue with it on both process and substance. The process is too fast. The substance is wrong. It is inconsistent with markets. It will contribute to destroying markets.

Ms. TEPPER. We too have a problem with process and substance.

Mr. VANDERHELM. Same. Issue with both process and substance. Our concern about its impact on the competitiveness of markets by putting that type of additional adder in their revenues. Also, our concern about the process and the accelerated review period that has been suggested.

Mr. HUGHES. Ditto those remarks. I would also add that our read of the DOE proposal is that DOE is saying that U.S. manufacturing jobs are not as good as the jobs of economically obsolete coal and nuclear plants.

Ms. BRAND. I will add my voice to the chorus. We oppose it both on substance and on procedure. I think it basically illuminates the competitive markets, and I think that the process shows exactly what we were talking about today about how difficult it is to be heard. And so we oppose it on both grounds.

Mr. SLOCUM. The Department of Energy's proposal is terrible. And I don't think anyone likes it except for those entities that have economic vested interests in the uneconomic nuclear and coal-fired power plants. Public Citizen is on the same side as this issue as the American Petroleum Institute, which has been pointed out to me as probably the first time in history that that has happened.

The process is always problematic. There was no reason for FERC to fast track this rulemaking. So it is important for Congress to get some answers from FERC as to why they did that. And it just again shows how critically important the creation of an office of public participation is at FERC, because all of a sudden, we have got some huge issues of concern to consumers that are moving very quickly through FERC. And Congress is on record with creating the office of public participation that the public interest needs more assistance in order to have an equal seat at the table.

Mr. RUSH. Thank you very much. Again, to all of the panelists, and I wish you would keep your answers brief on this question, do you believe the RTO stakeholder process serves the interests of consumers, or do you believe these consumer interests are consistently underrepresented in this process? And what reforms will you recommend to the subcommittee?

Mr. Bowring?

Mr. BOWRING. Yes. Thank you.

So consumers are represented. I don't think the representation is effective as it could be, and I think it is because of a lack of resources. So for the reasons that my colleagues here on the panel have indicated, I think customers need to be strongly represented in the RTO stakeholder process, and it is not currently as strong as it could be.

Ms. TEPPER. I would agree with that. And one of the suggestions that I think would be helpful would be to provide a stable funding mechanism for the State consumer advocates, something maybe like what they are doing in New England. We have a State process where—it is called NESCOE where the States get money from—as a group, get money through the tariff. And they are able to then participate. They have their own staff, and they are able to go to

all of those 100 meetings. And they are meaningfully participating with doing their own studies. Right now the way it works is that consumer advocates simply don't have that kind of resources to be able to participate in that kind of way.

Mr. VANDERHELM. I would first say that, for the large consumers, that we do have an opportunity to participate and always welcome greater participation from all the stakeholders, whether it be in the deregulated markets, ISOs and RTOs, or in the regulated process that is also relevant throughout the U.S.

Mr. HUGHES. ELCON exists to intervene where necessary at FERC. And so we are generally pleased with our ability to effect that agency. At the ISO and RTO level, we have some serious problems there. There are just too many of them, too many meetings. And we are just totally incapable of providing that coverage on an effective basis.

Ms. BRAND. We have gotten a stable source of funding in PJM for consumer advocates, but I would say that it is still not enough. We work a lot. We have stepped up our participation. We are trying to be heard. But the way the process is set up, it is just so difficult to have our voice heard among all of the members of PJM that I still think that more needs to be done.

Mr. SLOCUM. Yes. I agree. The RTOs are just an administrative nightmare. They are way too complicated. And the issues that they are deliberating on a daily basis have profound financial impacts on consumers. And consumers do not have an equal seat at the table. And there need to be fundamental reforms of the governance and transparency structures of the RTOs to more properly reflect the contributions of all the stakeholders, and particularly the public interest.

Mr. RUSH. Thank you, Mr. Chairman.

I yield back.

Mr. OLSON. The gentleman yields back. Instead of using 5 minutes of my time for taunting the Red Sox fans like Ms. Tepper, I will recognize the ranking member of the full committee, Mr. Pallone, for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman.

I wanted to ask Ms. Brand some questions, if I could. And thanks again for being here.

A recent report commissioned by American Municipal Power states that more than half of the $24.3 billion in transmission projects in PJM in 2012 were unneeded to comply with the RTO or Federal reliability requirements and were not subject to rigorous review. So three questions. First, what can be done to ensure that reliability requirements are thoroughly evaluated in a transparent manner with active involvement from impacted stakeholders?

Ms. BRAND. Well, I think that process could be reformed as well. There are some transmission projects that are needed for reliability. NERC will identify a problem and ask PJM or the RTO to solve it. But then there are a whole bunch of other projects that are proposed by the transmission owners because they are incredibly lucrative for the transmission owners. The returns on transmission are huge, so everyone wants to build whatever they can.

And what happens is that the need—both for the RTEP projects and for the supplemental projects, the need for the projects is not

adequately reviewed at PJM. On an RTEP project, once they say it is needed, you don't go back and revisit that, even if things change and there is no longer a need for that particular line.

So I think greater scrutiny needs to be made, and they need to go revisit their prior decisions on a regular basis to make sure that we are only building the transmission that is actually needed, because it represents a huge part of the customer's bill, and there is just no point in building transmission that is not needed.

Mr. PALLONE. All right. Thanks.

Then in your opinion, how can we build transmission projects more cost-effectively while minimizing impacts to local communities and their environment?

Ms. BRAND. Well, cost-effectively I would argue that the returns that are granted by FERC for transmission are completely off the charts. Some utilities are getting close to 12 percent return on these projects, which, in this economy, is a bit crazy. You know, there is some pain always when you are building a transmission project in any community that it goes through. But if it is needed, then people, I think, are more willing to accept it. The problem really comes in when you have these huge transmission lines that are just gashing a hole through a community, and then it turns out they are not needed. And that is what really needs to stop.

Mr. PALLONE. Because, obviously, project costs get passed along to the rate payers, can there be specific criteria that have to be met by States before utilities or transmission operators are allowed to move forward with planning these large-scale infrastructure projects?

Ms. BRAND. Well, in terms of the cost, it is a pass-through. The States don't really have a role in determining how they get charged for it. The States will have a role in specific siting of a transmission project. But, again, it is a difficult process.

We are going through a situation in New Jersey right now where there is a trial that has been going on for months to try to figure out whether or not it is being put in the right place. And the utility's goal is to get it built and to start earning on it, whereas the people who are in the path of that line are often—they don't have a significant voice or they are just in the way.

Mr. PALLONE. Well, you know, that is in my district, so I appreciate your commenting on it.

The last thing. I worry that drastically overestimating load forecasts on a regular basis can lead to unnecessary buildup and must be paid for by rate payers. Are there any checks and balances in place to encourage PJM not to overexaggerate forecasts? And then, in your opinion, what can PGM do to minimize transmission projects that are approved or built and then underutilized resulting in high-stranded cost?

Ms. BRAND. Well, PJM has traditionally overpredicted its load. There is no question that we come in at a lower level. There is a lot of advances in technology, and people are actually conserving. So their load forecasts have been high for a very long time.

They did change the rules a little while back so that they don't revisit projects once they have been approved as necessary to resolve reliability violations. And they did that because they were trying to avoid the disruption that occurs when you approve a

project, then you take it out, and then you approve a project, and then you take it out. But the end result is that we are now building transmission that is no longer needed based on the load profile. So I think they need to go back and have some form of regular review of these projects to make sure they are still needed, especially if they haven't started.

Mr. PALLONE. All right. Thanks so much.

That you, Mr. Chairman.

Mr. OLSON. The gentleman yields back. The Chair now calls upon the gentleman from Texas, another Houston Astros fan, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman, and thank our committee, because we have held a number of these hearings over the last few weeks and months looking at the reliability issue.

And Mr. Vanderhelm, in your testimony, you talk about the integral competitive wholesale markets—or contribute to Walmart's success. But before you answer, I want to thank Walmart, because I have a district in the Houston area. And I had a number of Walmart trucks coming to churches in our district who were—facilities to get food, and you-all are great corporate citizens, both in North and East and Southeast Harrison County.

Mr. VANDERHELM. Thank you for your comments.

Mr. GREEN. But the competitive electricity market that was created in Texas, and it has been very successful, is that an integral part of Walmart's success?

Mr. VANDERHELM. It certainly has enabled us to both continue to be able to procure electricity at lower prices year upon year by having that competitive market there just for all the stores. And as I mentioned in my testimony, enables us to directly contract with renewable energy or any other type of energy where it is delivered directly at the hub where we would be buying our retail energy.

Mr. GREEN. When your customers see the lights go out, what are the most prevalent reasons? Is it lack of generation?

Mr. VANDERHELM. No, sir.

Mr. GREEN. OK. A recent study, released this week, showed that, from 2012 to 2016, showed 96.2 percent of all sources of energy disturbance came from severe weather events, not generation and capacity, or fuel supply emergencies which account for less than 0.008, less than a hundredth of single percent. 2014, NERC released a report reviewing the polar vortex. In this report, NERC found that the extreme cold froze many coal piles rendering them useless for power generation.

Can the witnesses talk about issues from the polar vortex and how that affected customers like the one I mentioned? Is there any—is that true?

I am from Texas. We don't get snow but about every 10 years. I am sorry we get hurricanes and tropical storms every 7 or 8 years.

Mr. BOWRING. It was cold during the polar vortex. One of the things it illustrated was that the performance incentives were not in place in the capacity market. That has since been addressed. The forced outage rate for combustion turbines and other units is very high, but it was not a result of absence of fuel. It was the result of primarily mechanical problems at the units.

Mr. GREEN. Any other witness?

Ms. BRAND. Well, after the polar vortex, PJM did make some rule changes and did take steps to try to make sure that we won't get that close again to not having enough generation. And we haven't even tested it yet. And already there are people saying that it wasn't enough. So I would definitely advocate for let's see if the solution we came up with works before deciding that it didn't.

Mr. GREEN. In a number of these hearings, we have heard—and, of course, it doesn't take a Texan too much to brag, but that we have some really good success in our competitive market in witness after witness in different panels. That is why I was skeptical this last week of Secretary Perry's recent DOE rulemaking announcement that would fundamentally change the structure of free energy markets.

We created that when he was the Governor of the State. We have heard multiple times how competitive free markets for energy benefit consumers in a variety of ways. In this proposed and, I think, rushed rulemaking, the Secretary is suggesting it is in the national interest to subsidize industry like coal who can keep 90-day fuel supply on-site moving that number up from the existing 71 to 74 days.

Can anyone on the panel comment on how 90 days of frozen, soggy coal is better than 71 to 74 days? Do you see this rulemaking is making your grid reliable?

Mr. BOWRING. Sir, it is our view that subsidizing particular technologies on economic technologies is not necessary to make the grid more reliable. The grid has been reliable and resilient, and continues to be that way as a result of competitive markets.

Ms. TEPPER. I think you could look at New England as a good example of how one can make a change in the markets and adjust. You know, we now have the lowest prices, wholesale prices, in New England than we have had since 2003. We don't have a reliability problem. Many studies have shown we have no reliability problem. And we have reduced our air emissions by—SO2 by 96 percent.

So we are doing that while we are reducing emissions, and we are reducing our load. Last year we reduced our load by 2 percent. So that is from our energy efficiency programs and from solar. So you can make a change. And the markets are flexible enough to accommodate those changes. I think our markets are trying hard right now to accommodate those changes. And it is not a reliability issue.

Mr. GREEN. What is the base load for the New England market?

Ms. TEPPER. You mean what is the major——

Mr. GREEN. What is your power——

Ms. TEPPER. Gas.

Mr. GREEN. Gas?

Ms. TEPPER. Uh-huh.

Mr. GREEN. OK. Obviously we would like to sell you more natural gas.

Recently, Hurricane Harvey dumped so much water on Texas that the Electric Reliability Council of Texas had to switch to units from coal to natural gas. Natural gas is by far the largest provider during the storm, although I can also say our nuclear power plant in Southeast Texas continued to function very well.

At the San Jacinto plant site which uses natural gas, the storm dumped 47 inches of the rain and yet it remained in operation. It is frankly just not the case that increasing natural gas-fired plants is threatening reliability of the grid, because we also found out that coal gets soaked with water, and it doesn't work whereas natural gas doesn't.

Mr. Chairman, I want to thank you, thank our witnesses. And, again, I appreciate this series of hearings we are having, because it really gets us all up to speed on electrics in generation.

Thank you.

Mr. OLSON. The gentleman's time has expired. The Chair now calls upon the pride of Clarkson University, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair. Thank you for your enthusiasm. And thank you for organizing this very informative bipartisan powering America's series.

I certainly have learned a lot. And I thank our witnesses for appearing here. And not just here testifying but also for the significant work you do in a very important arena.

We expect a lot out of our grid. We want it to be clean, reliable, flexible, resilient, and, yes, affordable. We have been holding these hearings, and many witnesses have made great points about the present and future of our electricity systems. But we have to remember: If we want utilities to invest in resiliency or RTOs to require greater reliability, the costs ultimately gets passed down to consumers, and that will hurt affordability.

Developing a modernized grid is about balancing all of these qualities. And members and stakeholders may have different ideas on how to do that best and how to value individual grid attributes. I think this is best done through dialogue which must include transparency and participation in FERC, in RTO proceedings.

So I want to highlight very important points made by a number of witnesses this morning. Participation in FERC and RTO proceedings is incredibly difficult for consumers. The process can be technically complex, costly, and time-consuming which creates, in its own, a high barrier to participation.

So if I might ask Mr. Slocum: If consumers don't have a seat at the table, does affordability get pushed aside in favor of other grid attributes?

Mr. SLOCUM. Absolutely. The stakeholder meetings at the various RTOs, that is really where the heavy lifting of market rules and tariff writing occurs. And as has been very well articulated by some of the State consumer advocates in RTOs here, the consumer advocates do not have the resources from a financial standpoint, a staff standpoint to adequately participate in those proceedings. And so as a result, those stakeholder meetings are shaped by those entities that have the resources to contribute.

And that increasingly are the transmission owners, the generation owners. And so as a result, you are seeing a bias coming out of that stakeholder process. And so we have got to recognize that the RTOs are staffed by good, honest, hardworking people. But the structure of the way that they administrate these stakeholder processes, it is fundamentally broken. And we have got to have total reforms to the way that those are conducted or a total separation

of that stakeholder function from the RTOs into an entity that is more accountable to the public interests.

Mr. TONKO. Thank you.

Ms. Tepper and Ms. Brand, Do you agree with those sentiments?

Ms. TEPPER. Yes. I would add that I think that we have had some successes at ISO New England in being more cost conscious. One of the things that consumer advocates really fought for was having more competition in the transmission—building of transmission. I think that is slowly happening. I think we have done a good job in integrating energy efficiency into our load forecast price so that we are not buying too much and we are estimating how much energy efficiency is going to be going in the future.

But we have a lot of work to do. ISO and the other RTOs need to have that part of their mission. Part of their mission needs to be also worrying not just about reliability but how much what they do costs.

Mr. TONKO. And Ms. Brand?

Ms. BRAND. I would also agree. But I would also say that part of the problem is when they consider costs. A lot of times costs don't even enter into the discussion until we are so far along that everybody has already made up their mind. And we have made some progress. We certainly have. We have the CAPS organization in PJM, and we try to be there on day one to bring costs to the forefront. But it is a very difficult task.

Mr. TONKO. And a number of witnesses described the significant costs and barriers to participate. Ms. Tepper and Ms. Brand, your testimonies describe how multiple entities have pooled their resources in order to have consumer advocates more fully participate. It seems that funding of full-time voice for consumers can be difficult. Are there other ways or compensation structures that would enable more robust participation?

Ms. BRAND. Well, we have a tariff provision, so we do have funding. More funding, I think, would make the difference. But also funding of more entities. CAPS does a terrific job of representing the consumer advocates. But, for example, you know, I am sure Mr. Slocum would love to participate in the RTO proceedings. But there is no resources to do it.

So, you know—and we end up as one voice among many. Even though we are pooling our voices and speaking more strongly, it still cannot—we are completely drowned out by the transmission owners and generation owners.

Mr. TONKO. And Ms. Tepper.

Ms. TEPPER. I definitely would say that the consumer liaison group that I run, the people on the coordinating committee, I think, would universally say that to have a broader participation, not just to the consumer advocates but of businesses, of universities, that requires additional work.

Mr. TONKO. Thank you.

Mr. Chair, if you will indulge me for just 10 seconds.

Mr. OLSON. Twenty seconds. How about that?

Mr. TONKO. I want to associate myself with the witnesses' comments about DOE's proposed rulemaking to FERC. Subsidizing noncompetitive generation for a small, if any, grid benefit at massive expense to consumers is wrong. It is bad for individuals. It is

bad for businesses. It is bad for manufacturers. And it definitely should not be done through a rushed process.

We need more discussion on proceedings and their merits and not less. And I would say to DOE, please, please keep consumers in mind. This is a bad move.

With that, Mr. Chair, I yield back.

Mr. OLSON. The gentleman yields back.

And seeing no further witnesses to ask questions, I would like to thank all the witnesses for your patience during votes and, again, for being here today.

Also, special thanks to you, Mrs. Tepper, for accepting my challenge on behalf of Mr. Kennedy and all Boston Red Sox fans around the world. We are going to take you down.

Ms. TEPPER. I will warm up the chowder for you.

Mr. OLSON. Got a big hot bowl of steaming chili waiting for you with lots of jalapenos on it. Very hot.

There being no documents for the record and pursuant to committee rules, I remind Members that they have 10 business days to submit additional questions for the record and ask the witnesses to submit their responses within 10 business days upon receipt of those questions.

Without objection, this subcommittee is adjourned.

[Whereupon, at 12:19 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225–2927
Minority (202) 225–3641

October 30, 2017

Dr. Joseph Bowring
President
Monitoring Analytics
2621 Van Buren Avenue; Suite 160
Eagleville, PA 19403

Dear Dr. Bowring:

Thank you for appearing before the Subcommittee on Energy on Thursday, October 5, 2017, to testify at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Monday, November 13, 2017. Your responses should be mailed to Allie Bury, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Allie.Bury@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy

Attachment

State of Electricity Markets

Response to Additional Questions for the Record from the House Committee on Energy & Commerce, Subcommittee on Energy

Joseph Bowring
The Independent Market Monitor for PJM
November 13, 2017

Additional Questions for the Record

The Honorable Fred Upton

1. Lower wholesale electricity prices and weak demand are forcing some high-cost generators to retire before the end of their useful life. Do you see this as a sign of a healthy and competitive market or a sign that the markets are in need of reform?

Answer:

I see the retirement of uneconomic generating units as a sign of a healthy and competitive market.

A benefit of competitive power markets is that they are dynamic, flexible and resilient. The PJM market has resulted in a reliable system despite significant changes in underlying market forces. Technological innovation and significantly lower gas costs have been key market forces. In PJM, there have been substantial unit retirements as a result of market forces and there has been substantial new market entry as a result of market forces. The PJM market design has worked flexibly to address both market exit and entry without preferences for any technologies.

Substantial retirements have occurred in PJM. Table 1 shows unit retirements in PJM between 2011 and 2020. About three quarters of all retired MW were coal fired. The coal units had an average age of 54.4 years and were relatively small. The balance of MW included oil, natural gas and one nuclear power plant. The Oyster Creek nuclear power plant, the oldest operating nuclear power plant in the U.S., will retire in 2019 by agreement with state regulators because the addition of a required cooling tower would have negatively affected the economic viability of the plant.

Table 1 Retirements by fuel type: 2011-2020

Fuel	Number of Units	Avg. Size (MW)	Avg. Age at Retirement (Years)	Total MW	Percent
Coal	144	175.2	54.4	25,229.6	77.3%
Diesel	5	21.3	39.8	106.3	0.3%
Heavy Oil	2	157.0	49.5	314.0	1.0%
Hydro	1	0.5	113.8	0.5	0.0%
Kerosene	20	41.4	45.5	828.2	2.5%
Landfill Gas	9	3.9	14.0	35.0	0.1%
Light Oil	30	46.2	43.2	1,384.9	4.2%
Natural Gas	55	58.9	47.3	3,237.3	9.9%
Nuclear	2	709.8	47.8	1,419.5	4.4%
Waste Coal	1	31.0	20.3	31.0	0.1%
Wind	1	10.4	15.6	10.4	0.0%
Wood Waste	2	12.0	23.2	24.0	0.1%
Total	272	119.9	49.1	32,620.7	100.0%

There is substantial new entry also occurring in PJM. Table 2 shows all the new capacity in queues to enter the PJM market by transmission zone, Locational Delivery Area (LDA), fuel type and MW. As of September 30, 2017, 95,508.9 MW of capacity were in generation request queues for construction through 2024, compared to an average installed capacity of 201,573.5 MW as of September 30, 2017.[1] Of the capacity in queues, 8,900.7 MW, or 9.3 percent, are uprates and the rest are new generation. Wind projects account for 15,580.9 MW of nameplate capacity or 16.3 percent of the capacity in the queues. Natural gas fired projects account for 59,943.8 MW of capacity or 62.8 percent of the capacity in the queues.

[1] Generation request queues are groups of proposed projects, including new units, reratings of existing units, capacity resources and energy only resources.

Table 2 Queue capacity by LDA, control zone and fuel (MW): September 30, 2017

Zone	Biomass	CC	CT	Diesel	Fuel Cell	Hydro	Nuclear	Solar	Steam	Storage	Wind	Total Queue Capacity	Planned Retirements
AECO	0.0	1,674.6	462.0	0.0	1.9	0.0	0.0	75.3	0.0	20.0	25.0	2,258.8	303.0
DPL	4.0	802.0	0.0	13.6	0.0	0.0	0.0	1,431.2	0.0	25.0	649.6	2,925.4	0.0
JCPL	0.0	1,767.1	0.0	0.0	0.4	0.0	0.0	201.8	0.0	85.0	0.0	2,054.3	614.5
PECO	0.0	1,221.0	0.0	4.5	0.0	0.0	94.0	18.0	0.0	0.0	0.0	1,337.5	50.8
PSEG	0.0	2,566.5	677.0	5.0	3.6	0.0	0.0	79.1	24.0	0.0	0.0	3,355.2	611.0
RECO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EMAAC Total	4.0	8,031.2	1,139.0	23.1	5.9	0.0	94.0	1,805.4	24.0	130.0	674.6	11,931.2	1,579.3
BGE	0.0	0.0	0.0	0.0	1.3	0.0	0.4	30.3	22.0	0.0	0.1	0.0	135.0
Pepco	0.0	0.0	1,857.6	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0	0.0	0.0
SWMAAC Total	0.0	0.0	1,857.6	0.0	1.3	0.0	0.4	30.3	84.5	0.0	0.1	1,974.2	135.0
Met-Ed	0.0	485.0	34.1	0.0	0.0	0.0	0.0	158.0	30.0	0.0	0.0	707.1	805.0
PENELEC	0.0	1,170.0	521.1	121.1	0.0	17.0	0.0	63.5	590.0	0.0	458.8	2,941.5	0.0
PPL	16.0	5,818.0	19.9	19.9	0.0	0.0	0.0	30.0	0.0	30.0	441.1	6,374.9	0.0
WMAAC Total	16.0	7,473.0	575.1	141.0	0.0	17.0	0.0	251.5	620.0	30.0	899.8	10,023.4	805.0
AEP	0.0	10,156.0	394.0	15.2	0.0	46.5	28.0	4,274.8	149.0	90.0	7,387.1	22,540.5	0.0
APS	0.0	5,805.1	30.0	99.6	0.0	15.0	0.0	669.6	10.0	37.8	1,010.7	7,677.8	0.0
ATSI	0.0	5,191.0	0.0	0.9	0.0	0.0	0.0	426.0	0.0	0.0	815.7	6,433.5	776.0
ComEd	0.0	8,270.2	1,127.0	18.8	0.0	22.7	0.0	495.0	64.0	85.5	3,445.5	13,528.7	0.0
DAY	0.0	1,150.0	0.0	0.0	0.0	0.0	0.0	762.9	12.0	39.9	300.0	2,264.8	2,404.0
DEOK	0.0	513.0	0.0	0.0	0.0	0.0	0.0	290.0	20.0	19.8	0.0	842.8	0.0
DLCO	0.0	205.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	20.0	0.0	236.7	0.0
Dominion	62.5	6,879.7	155.0	8.0	0.0	5.6	0.0	9,709.2	14.0	34.0	1,047.5	17,915.5	728.0
EKPC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
RMU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	40.0	0.0
Non-MAAC Total	62.5	38,170.0	1,706.0	142.4	0.0	89.8	28.0	16,779.1	269.0	327.0	14,006.4	71,580.2	3,908.0
Total	82.5	53,674.2	5,277.7	306.5	7.2	106.8	122.4	18,866.3	997.5	487.0	15,580.9	95,508.9	6,427.3

The experience in PJM has demonstrated that competition in markets results in the retirement of uneconomic resources and the entry of economic resources. The PJM market is healthy and reliable and does not require interventions to save uneconomic resources, either in the form of direct cost of service subsidies or in the form of changing the rules governing price formation to favor specific technologies.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
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Majority (202) 225–2927
Minority (202) 225–3641

October 30, 2017

Ms. Rebecca Tepper
Energy Chief
Massachusetts Attorney General's Office
1 Ashburton Place
Boston, MA 02108

Dear Ms. Tepper:

Thank you for appearing before the Subcommittee on Energy on Thursday, October 5, 2017, to testify at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Monday, November 13, 2017. Your responses should be mailed to Allie Bury, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Allie.Bury@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy

Attachment

THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF THE ATTORNEY GENERAL
ONE ASHBURTON PLACE
BOSTON, MASSACHUSETTS 02108

MAURA HEALEY
ATTORNEY GENERAL

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November 13, 2017

The Honorable Fred Upton, Chairman
Committee on Energy and Commerce
Subcommittee on Energy
2125 Rayburn House Office Building
Washington, DC 20515-6115

Re: October 5, 2017 Hearing – Response to Additional Questions for the Record

Dear Chairman Upton,

Thank you for the opportunity to respond to additional questions following my testimony before the Subcommittee on Energy on Thursday, October 5, 2017 at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Attached are my responses to the additional questions set forth in your letter dated October 30, 2017. If you have any questions regarding the attached responses, please do not hesitate to contact me.

Thank you and the Subcommittee for your time, effort, and the opportunity to participate in this important matter.

Sincerely,

/s/ Rebecca L. Tepper

Rebecca L. Tepper
Chief, Energy and Telecommunications Division

Enclosure

Additional Questions for the Record

Rebecca Tepper, Assistant Attorney General,
Massachusetts Attorney General's Office

The Honorable Fred Upton

1. **In response to Order 719, the RTO's and ISO's established a range of programs and functions to comply with FERC's consumer-focused reforms. For example, PJM now has a Consumer Advocate liaison on staff and the other RTO's have other ways to receive feedback from consumer interests.**

   a. **Has FERC Order 719 increased the responsiveness of RTOs and ISOs to customers and stakeholders?**

   b. **Does FERC need to undertake additional steps to represent consumer interests? What steps?**

(a) FERC Order No. 719 sought to enhance the "responsiveness of RTOs and ISOs to customers and other stakeholders, and ultimately to the consumers who benefit from and pay for electricity services." Order No. 719 at P. 12. In Order No. 719, FERC required each RTO to "make reforms, as necessary, to increase its responsiveness to customers and other stakeholders." Order 719 at P. 7. Among other requirements, FERC directed each RTO to provide a forum for affected consumers to voice specific concerns (and to propose regional solutions) on how to improve the efficient operation of competitive markets.

New England responded to FERC's directive to examine RTO responsiveness by forming a working group that was open to all interested ISO-NE and New England Power Pool ("NEPOOL") stakeholders. The Working Group process resulted in a set of compromises: First, ISO-NE revised its mission statement, committing it to "strive to perform all its functions and services in a cost-effective manner, for the benefit of all those served by the ISO" and to provide "quantitative and qualitative information" on cost impacts for proposed major initiatives. Second, ISO-NE and NEPOOL agreed to several procedural changes to increase ISO-NE Board transparency. Finally, the Working Group formed the Consumer Liaison Group ("CLG").

New England's implementation of these FERC Order No. 719 initiatives has enhanced responsiveness to customers by providing them with more educational and communication opportunities and by increasing transparency. For example, the CLG

provides opportunities for a wide range of stakeholders to learn about the ISO-NE process and how ISO-NE actions impact consumers. The CLG also provides a forum for consumers to hear directly from and question ISO-NE representatives. In addition, ISO-NE has dedicated a staff person to serve as a liaison to the CLG Coordinating Committee. The liaison helps facilitate CLG meetings and communications between the Coordinating Committee and ISO-NE. A dedicated webpage, annual reports, and monthly updates provide customers with additional educational opportunities.

However, as noted in my testimony, as it operates today, the CLG has no formal role in the ISO-NE stakeholder process. Under the current ISO-NE construct, a customer who wants to influence and participate in ISO-NE decision-making must join NEPOOL and actively participate in the stakeholder process, or hire a representative to do so on the customer's behalf. Not all consumer advocates, and certainly not most consumers, can afford to devote the resources necessary to effectively monitor, evaluate, and influence this complicated, expensive, and time-consuming process.

Thus, while the CLG and other initiatives have improved responsiveness, additional measures are needed to expand consumer participation in the RTO stakeholder process. This participation is necessary to ensure (1) a level-playing field in the RTO decision-making process for the customers that ultimately pay for the electricity; and (2) RTO polices that are driven by the public interest.

(b) To increase consumer representation in the RTO stakeholder process, FERC could take the following steps. First, FERC could encourage/require RTOs to establish programs like the CLG. To be most effective, a CLG should have some independence from the RTO, including a dedicated CLG executive director. Second, as further outlined in my testimony, FERC could establish a stable funding mechanism that enables all state consumer advocates to fully participate in the RTO stakeholder process. Third, FERC could require all RTOs to consider costs in their decision-making and provide cost impact analyses (including retail bill impacts) on all major proposals and reasonable alternatives offered by stakeholders. Cost considerations and reducing customers' cost should be a part of every RTO's mission. Fourth, FERC could require RTOs to develop initiatives to improve communications between customers and consumer advocates and RTO executives and Boards. Fifth, FERC could seek additional opportunities for its staff to directly communicate with state consumer advocates and customers. For example, in an RTO with a CLG-like organization, FERC staff could hear directly from customers at a CLG meeting, which could be followed by a meeting with the region's state consumer advocates.

Thank you for the opportunity to provide answers to these supplemental questions.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225-2927
Minority (202) 225-3641

October 30, 2017

Mr. Mark Vanderhelm
Vice President of Energy
Walmart
702 S.W. 8th Street
Bentonville, AR 72716

Dear Mr. Vanderhelm:

Thank you for appearing before the Subcommittee on Energy on Thursday, October 5, 2017, to testify at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

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Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy

Attachment

Walmart

Energy Department
Mark Vanderhelm
Vice President, Energy

2001 SE 10th Street
Bentonville, AR 72716-5530
www.walmart.com

November 13, 2017

The Honorable Fred Upton
Chairman
Subcommittee on Energy
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Upton:

Please find attached Walmart's responses to the Questions for the Record for the hearing held on October 5th, 2017 and entitled "Powering America: Consumer-Oriented Perspectives on Improving the Nation's Electricity Markets." Thank you again for the opportunity to share Walmart's perspective before the Subcommittee on Energy.

Sincerely,

Mark Vanderhelm
Vice President, Energy
Wal-Mart Stores, Inc.

Walmart

Walmart's Responses to the Additional Questions for the Record

The Honorable Fred Upton

1. **In your testimony you talk about Texas Retail Energy, a wholly-owned subsidiary of Walmart which directly serves Walmart stores.**
   a. **Will you describe how Walmart is directly participating in wholesale markets? And what benefits does this provide?**
   b. **Is Walmart able to participate in wholesale markets in all areas of the Country? If not, what is preventing Walmart from doing so?**

Responses:

1.

a. Texas Retail Energy (FERC Power Marketer ER05-1515) directly participates in the wholesale markets to procure power to serve Walmart facilities in most markets where the generation portion of retail electric utility service has been deregulated and customers have the ability to choose their generation service provider.

Customer choice of retail generation service gives us the freedom to choose a supplier to best meet our business goals with service offerings that provide choices on price, reliability, generation portfolio mix, and risk management practices. When we compare our cost per kWh in 2016 to our cost per kWh in 2007, we find that our cost in customer choice jurisdictions decreased by almost 7 percent on average.[1]

Texas Retail Energy delivers additional benefits as direct participation in the wholesale markets and retail generation service reduces overhead and transaction costs and allows us to best align our business needs with our power procurement practices at the lowest possible cost. Additionally, competitive wholesale markets provide a transparent and easily transactable platform for the procurement of renewable energy and allow customer demand to directly contract for supply. Texas Retail Energy has entered into contracts with two wind farms to directly serve our Texas facilities, all without utility and regulatory intervention.

[1] California, Connecticut, Delaware, Illinois, Massachusetts, Maryland, Maine, Michigan, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and Texas.

At present time, Texas Retail Energy participates in the wholesale market and directly provides retail generation service to Walmart facilities in the following markets:

- The Electric Reliability Council of Texas portion of Texas
- Ameren Illinois territory (Midcontinent Independent System Operator) and Commonwealth Edison territory (PJM Interconnection) in Illinois
- Ohio (PJM Interconnection)
- Pennsylvania (PJM Interconnection)
- Maryland (PJM Interconnection)
- New Jersey (PJM Interconnection)
- New York (New York Independent System Operator)
- Connecticut (ISO New England)
- Massachusetts (ISO New England)
- New Hampshire (ISO New England)
- Maine (ISO New England)

Rhode Island (ISO New England), Delaware (PJM Interconnection), and the District of Columbia (PJM Interconnection) currently feature full deregulation of retail generation service. However, due to the relatively small number of Walmart facilities in those markets, Texas Retail Energy chooses not to directly serve Walmart facilities at this time.

Michigan, California, and Oregon currently feature partial or limited deregulation of retail generation service. Constraints such as participation caps and regulatory requirements, in addition to legislative and regulatory pressures to erode competition such as cost-additive capacity requirements not based on market capacity prices, limit the potential benefits to be derived from Texas Retail Energy operating in those markets. As a result, Texas Retail Energy chooses not to directly serve Walmart facilities in those markets.

b. Texas Retail Energy, through its FERC power marketing license, can participate in wholesale markets and transactions in all states where such opportunities are available. The key question, however, is whether there is a deregulated retail market for Walmart to participate in each of the states. Outside of the states listed above such a market does not exist and therefore limits the value for Texas Retail Energy in providing choice, cost, and risk mitigation to our stores. Given the forum, Walmart would advocate for the

establishment of deregulated retail markets in states which don't have such opportunities.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225–2927
Minority (202) 225–3641

October 30, 2017

Mr. John Hughes
President and CEO
Electricity Consumers Resource Council
1111 19th Street, N.W.; Suite 700
Washington, DC 20036

Dear Mr. Hughes:

Thank you for appearing before the Subcommittee on Energy on Thursday, October 5, 2017, to testify at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

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Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy

Attachment

Responses to Additional Questions for the Record

The Honorable Fred Upton

You testify that "FERC does not properly assign costs of new or upgraded transmission facilities to the ultimate beneficiaries of those lines." However, isn't equitable cost allocation one of the primary goals of FERC's Order No. 1000? What is your opinion of the Order No. 1000 reforms?

Response of John Hughes:

Unfortunately transmission planning is like rocket science—it is very complex. I believe that FERC was naïve in its approach to transmission planning in Order No. 1000 and did not fully grasp the existing incentive structures (and utility motivations) that complicate efficient planning decisions. Adding a new or upgraded transmission line at some randomly selected location on the grid will always generate benefits somewhere on the system intended or not. That is just the nature of power flows. This does not justify spending an infinite amount of money to get a perfect system. The implementation of Order No. 1000 was flawed because FERC and industry transmission planners have not (1) produced a workably transparent selection process for mapping a specific reliability problem with potential cost-effective solutions; and (2) agreed on a truly equitable cost allocation methodology.

ISOs, RTOs, NERC, and transmission owning utilities are generally very good at identifying reliability problems that need to be addressed and fixed. But there may be multiple ways to solve a specific problem and each approach may have a different set of ancillary benefits and beneficiaries—both short term and long term. FERC allows very lavish compensation for new transmission assets—returns on equity (ROE) are in the 10 to 13% range for relatively low risk investments. This creates a powerful economic incentive to increase the scope of transmission upgrades (by claiming other benefits of the project). Alternative non-transmission solutions are often ignored. One example is utilizing load as a resource (generally called Demand Response). This can defer the need for new transmission that is driven by increased peak demand. ELCON members are increasingly concerned that the transmission costs recovered in their electric bills are getting out of hand with little perceived improvement in grid reliability. They are also concerned that consumer interests are denied adequate opportunity to review the results of the evaluation and selection process.

Cost allocation is equally problematic. The $280 million Artificial Island transmission project (construction of a 230kV transmission line under the Delaware River) is a spectacular example. Depending on the choice of one of three PJM cost allocation methodologies, Delmarva Power & Light's customers would be allocated 93.37%, 6.95% or 10.36% of the $280 million. PSEG's customers would be allocated 0.42%, 42.06% or 18.86%. JCPL's customers would be allocated 0.27%, 13.00% or 12.38%.

Finally I am concerned that the grid operators do not have the necessary human resources and tools for project development, environmental permitting, equipment procurement, and the myriad of other factors associated with transmission development and siting.

Responses to Additional Questions for the Record

The Honorable Robert Latta

1. *In your testimony, you explain how NERC performs a critical role in real-time situational awareness and information sharing to protect critical electric infrastructure:*
   a. *Do you have examples of this real-time situational awareness and how it has helped protect the grid?*
2. *Can you talk more about the Critical Infrastructure Protection Standards that FERC and NERC have worked together on? Specifically, could you talk about the tiered approach to cybersecurity that utilities began to implement in 2016?*

Response of John Hughes:

Historically, NERC directly managed the Interregional Security Network (ISN or NERCnet), an information sharing network used by Reliability Coordinators (RCs) to exchange real-time data with each other. The ISN carries telemetry and system modeling information critical to the monitoring and real-time analysis of the grid's condition. Without this data, it would be much harder for RCs to detect threats emerging from other parts of the electric system. Perhaps more importantly, the data allows them to assess the possibility of a future outage, so steps can be taken before it can manifest itself.

But, as a Compliance Enforcement Authority (CEA), NERC cannot perform a reliability task that is subject to their Reliability Standards. FERC has ruled that this arrangement creates a conflict of interest (*i.e.,* the CEA and the organization responsible for compliance to a standard are one and the same, raising questions of fairness.) Thus, in late 2013, NERC transitioned the ISN to a consortium of Reliability Coordinators.

However, NERC's Operating Committee retains several responsibilities critical to every operator's real-time situational awareness adequacy. This includes Balancing Authorities, Generator Operators, and Transmission Operators; not just RCs. Four obligations come to mind: (1) the analysis of situational awareness outages, (2) the creation of metrics that allows a determination of performance at the individual entity and overall levels, (3) the sharing of best practices and Lessons Learned from incidents, and (4) the assembly of vendors, academics, and industry experts to scope out system and process solutions that address the most imposing issues. ELCON looks to NERC to identify the strategies, practices, training approaches, and platform/ tool improvements that will help reduce the frequency and duration of events that affect real-time situational awareness.

As far as specific examples of important findings identified by NERC – we can think of two recent ones. The first is the investigative work the Operating Committee has sponsored to correlate situational awareness impairments to corrupt or missing input data. We now know that the problem is much larger than previously thought as many instances are masked by the action of backup systems and processes. And, NERC is taking the lead on finding solutions that address

the root problem (*i.e.,* those that detect the sources of data errors and mitigates them without engaging backup capabilities.)

The second example relates to the increasing inability of State Estimator and Real-time Contingency Analyses to converge. The rapid addition of new measuring points, which transmit data at high sample rates, is starting to overload these critical applications. But, once again NERC has taken the lead to find detection mechanisms that will alert front-line Operators to a deterioration in these capabilities. One very promising option caught our attention – a zonal approach where data can be safely accumulated and assessed in small chunks; without a loss in the geographic extent of the wide-area view or its resolution.

Although the Critical Infrastructure Protection (CIP) standards have been mandatory and effective for over nine years, the so-called "Version 5" standards only took effect in 2016. The updates primarily reflect the latest protective strategies available from NIST (Special Publication 800-53) – and security requirements were added for interactive remote access and portable media. The CIP framework now consists of ten very demanding standards addressing physical security, electrical security, account management, configuration control, and information protection; among many other topics.

In the earlier CIP versions, the applicable equipment and systems were determined by a risk assessment developed by each Responsible Entity. Those microprocessor-based servers, work stations, control systems, sensors, and communications systems that could threaten the BES if compromised by a cyber-attack were called "Critical Cyber Assets" and subject to every CIP requirement. Responsible Entities were required to re-assess their asset base every year to assure that newly added Cyber Systems were properly identified and protected.

Although categorization guidelines were provided to the industry, the determination of Critical Cyber Assets varied greatly across the Registered Entity base. FERC determined that this outcome introduced a reliability gap in the BPS, so they directed the creation of bright-line criteria to replace the risk-based assessment strategy. In addition, the Commission called for all Cyber Systems be protected to some extent – even those seemingly of minor consequence. The rationale behind this mandate is that poorly protected Cyber Systems represent a "soft target" to hostile forces, who may use them as a base of operations to launch attacks on interconnected systems of higher importance.

As such, the CIP Version 5 standards include seventeen clear principles that Responsible Entities must apply to identify the most critical BES Cyber Systems and those of medium importance. In general, criticality is determined by the extent of BPS impact that would occur if those assets were compromised by a cyber-attack (*i.e.,* systems that control the greatest amount of power or could destabilize a large geographic area if not available.) All remaining Cyber Systems are deemed to be low-impact.

As one might expect, high-impact BES Cyber Systems are subject to the strictest CIP requirements – driving Registered Entities to focus the lion's share of their protective efforts on them. Medium-impact BES Cyber Systems have nearly as many applicable requirements, but the performance expectations are typically not as demanding. Low-impact BES Cyber Systems are far fewer, but

still require Registered Entities to implement policies for Cyber security awareness, physical security controls, electronic access controls, and incident response.

ELCON sees the tiered approach to cyber security as written in the CIP Version 5 standards as reasonable and effective. We believe that the industry's scarce resources need to be applied to the highest risk systems – and all need to agree which ones those are. In addition, the protective strategies driven by the CIP standards are a challenge to implement, but deliberately crafted to allow Registered Entities to adapt to a rapidly changing cyber landscape. The industry is required to address known and newly emerging threats, but are not locked into using specific technologies and strategies; which can become quickly obsolete in today's environment.

Responses to Additional Questions for the Record

The Honorable Richard Hudson

1. Mr. Hughes, as the Subcommittee has looked at empowering consumers throughout the Powering America hearings, one of the important issues we've seen is fairness and transparency in the electricity rates that consumers pay. Unfortunately, ratepayers are increasingly being forced to finance premium and unnecessary technologies for reasons that have little to do with generating cheap and reliable electricity.

I introduced H.R. 1572, the "Ratepayer Fairness Act," which amends PURPA section 111(d) to require that state public utility commissions consider a fair and transparent process when reviewing requests to subsidize "customer-side technologies" – or technologies that only benefit a few users, but are paid for by everyone else.

In your testimony, you mention that customer interests are consistently underrepresented in the RTO/ISO stakeholder processes.

a. How would you improve the stakeholder process?
b. What more can we do to increase transparency for consumers?

Response of John Hughes:

1(a). ISO/RTO stakeholder processes are largely driven by the desire of certain stakeholders (mainly utility and merchant suppliers) to keep changing the market rules—changes that might enrich them. Most ISOs and RTOs were established almost two decades ago and the market designs (including pricing mechanisms) have undergone continual change during that time, which keep ISO/RTO stakeholder processes very busy. Since most of the market design changes are intended to force consumers to pay more for their power by creating new revenue streams for suppliers, consumer interests are always in the position of playing defense with only a small fraction of the human resources committed to the stakeholder processes compared to supply interests. The most effective way to improve ISO/RTO stakeholder processes is to limit the need for them. FERC should reach closure on each ISO/RTO market design and not be so amenable to the endless reforms and tweaks coming out of each stakeholder process. Since it is a lot easier for consumer interests to participate in adjudicatory processes at FERC, future reforms should be the subject of formal rulemakings at FERC and not be extensively incubated by ISO/RTO stakeholder processes.

1(b). I am not sure it is possible given that the industry's evolutionary track seems to emphasize greater technological complexity. This, combined with the inevitable legal and economic jargon that pervades a regulated industry, makes for a very daunting task. But I would suggest that utilizing subject matter experts to review these situations is very important and relying more on their assessments than stakeholder group votes can contribute to transparency.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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October 30, 2017

Ms. Stefanie Brand
Director
New Jersey Division of Rate Counsel
140 East Front Street, 4th Floor
Trenton, NJ 08625

Dear Ms. Brand:

Thank you for appearing before the Subcommittee on Energy on Thursday, October 5, 2017, to testify at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Monday, November 13, 2017. Your responses should be mailed to Allie Bury, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to Allie.Bury@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy

Attachment

State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL
P. O. BOX 003
TRENTON, NEW JERSEY 08625

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

STEFANIE A. BRAND
Director

November 9, 2017

VIA E-MAIL AND REGULAR MAIL

Allie Bury, Legislative Clerk
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Re: Hearing before the Subcommittee on Energy entitled "Powering America" Consumer Oriented Perspectives on Improving the Nation's Electricity Markets"

Dear Ms. Bury:

As requested in Chairman Upton's letter of October 30, 2017, attached are the Division of Rate Counsel's responses to his supplemental questions.

Please let us know if you require anything further.

Very truly yours,

[redacted]

Stefanie A. Brand
Director, Division of Rate Counsel

SAB:dlb
Enclosure

Additional Questions for the Record

The Honorable Fred Upton

1. **In response to Order 719, the RTO's and ISO's established a range of programs and functions to comply with FERC's consumer-focused reforms. For example, PJM now has a Consumer Advocate liaison on staff and the other RTO's have other ways to receive feedback from consumer interests.**

   a. **Has FERC Order 719 increased the responsiveness of RTOs and ISOs to customers and stakeholders?**

   b. **Does FERC need to undertake additional steps to represent consumer interests? What steps?**

(a) FERC Order 719 required the RTOs and ISOs to establish practices and procedures to enhance the responsiveness of the RTO and ISO Boards to the needs of their customers and other stakeholders. In Order 719, FERC declined to require specific measures, but ordered the RTO/ISOs to submit Compliance Filings to explain what they had done to increase responsiveness as required by the Order. FERC indicated that it would review the filings based on four criteria:

- Inclusiveness, *i.e.*, ensuring that any affected customer or stakeholder has the opportunity to communicate its views to the RTO/ISO Board;
- Fairness in Balancing Diverse Interests, *i.e.*, ensuring that the interests of customers or other stakeholders are equitably considered in the stakeholder process;
- Representation of Minority Positions, *i.e.*, ensuring that minority positions are communicated to the ISO/RTO Board; and
- Ongoing Responsiveness, *i.e.*, ensuring procedures that provide for stakeholder input in RTO/ISO decisions and communication and information exchange throughout the decision-making process.

As a result of Order 719, there have been improvements in the responsiveness to consumer interests. As noted, PJM has a dedicated staff person serving as the liaison with consumers and other public interest groups. The liaison certainly helps facilitate ongoing interaction between consumer advocates and PJM staff and this has been helpful in educating both the advocates and PJM staff on a variety of issues. In addition,

consumer advocates, via PJM's Liaison Committee, are allotted time to present issues of interest directly to PJM's Board of Directors. However, the Liaison Committee meets only four times per year. At each meeting, the issues that will be discussed are pre-determined by PJM and the total two hours allotted for each meeting must be divided up among all of the stakeholder sectors. Thus, the actual time that the end-use sector gets to discuss these pre-determined issues is generally about fifteen minutes or so at each meeting. That time is then divided up among the members of the sector, including consumer advocates, so that the advocates' time with the RTO Board is extremely limited.

While helpful, these measures are not sufficient to overcome the issues described in my testimony. The complexity of the issues and the sheer number of meetings that occur at the RTO make it difficult for resource-strapped consumer advocates to keep up and participate in all meetings that affect their constituents. As noted in my testimony, the Consumer Advocates in PJM have taken steps to increase our participation by sharing resources and creating an organization (CAPS), which is funded through the PJM tariff, to give us a greater presence in the stakeholder process. However, that organization has one employee. So while the participation of the advocates has improved, there is still a ways to go before our voices are as loud as the representatives of other, well-funded sectors.

(b) There are some things that could be done to expand on these improvements. CAPS-like organizations could be created and given tariff-based funding in RTO/ISOs other than PJM. At PJM, market rules are being changed and tweaked on an almost continuous basis. Perhaps better procedures could consolidate some of those changes or schedule their consideration in such a way as to reduce the number of meetings that are required.

On the transmission planning side, consideration of costs earlier in the process would help ensure that transmission is built at the lowest reasonable cost. Also on the transmission side, there has been a proliferation of "supplemental" projects that are proposed by transmission owners rather than being required to resolve potential reliability issues identified by PJM or NERC. While the RTO reviews those projects to ensure they do not interfere with reliability, neither PJM nor FERC officially approves the construction of those projects. Often, consumer advocates do not learn about these supplemental proposals until they show up on an agenda for a Transmission Expansion Advisory Committee meeting or they show up in an annual formula rate filing. At that point, the transmission owner is already moving ahead. If notice could be given of such proposals earlier, consumer advocates could be better prepared and play a greater role in determining if the project is truly needed.

These are just some suggestions of ways the process could be improved. We would welcome a renewed review by FERC of ways to improve both RTO and FERC responsiveness. We also reiterate that the creation and funding of a consumer advocate's office at FERC would help ensure that the concerns of consumers are heard. As I mentioned in my testimony, enactment of H.R. 2656 (S.1240) that would create an Office of Consumer Advocacy at FERC and provide for intervenor funding, or full funding of the Federal Power Act provisions that already allow for a consumer advocacy office at FERC, would be extremely helpful in ensuring that customers' voices are heard throughout the process.

Thank you for the opportunity to provide answers to these supplemental questions.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

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COMMITTEE ON ENERGY AND COMMERCE

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October 30, 2017

Mr. Tyson Slocum
Director
Public Citizen Energy Program
215 Pennsylvania Avenue, S.E.
Washington, DC 20003

Dear Mr. Slocum:

Thank you for appearing before the Subcommittee on Energy on Thursday, October 5, 2017, to testify at the hearing entitled "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

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Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

Fred Upton
Chairman
Subcommittee on Energy

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy

Attachment

215 Pennsylvania Avenue, SE • Washington, D.C. 20003 • 202/546-4996 • www.citizen.org

November 13, 2017

Chairman Fred Upton
Subcommittee on Energy, Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Upton,

This letter provides answers to the Additional Questions for the Record you submitted as a follow-up to my testimony on October 5, 2017 before your committee entitled, "Powering America: Consumer Oriented Perspectives on Improving the Nation's Electricity Markets."

You ask: "Has FERC Order 719 increased the responsiveness of RTOs and ISOs to customers and stakeholders? Does FERC need to undertake additional steps to represent consumer interests? What steps?"

My answer: FERC Order 719 does not go far enough to ensure that RTOs are response to consumers. The first needed additional step is for FERC to act upon the proposed rulemaking submitted by Public Citizen and 30 other organizations for FERC to create and fund the Office of Public Participation as required by law.[1] Among the duties of the Office are to "coordinate assistance to the public," and the Office "may, under rules promulgated by it, provide compensation for reasonable attorney's fees, expert witness fees, and other costs of intervening or participating in any proceeding before the Commission to any person whose intervention or participation substantially contributed to the approval, in whole or in part, of a position advocated by such person." Such assistance to the public is essential for consumers to have a seat at the table in important FERC proceedings.

Additionally, FERC must broaden the scope of Order 719 to require significant governance reforms of the RTOs. As I pointed out in my testimony,[2] FERC relies heavily upon the RTO internal stakeholder process to develop tariff reforms. RTOs like PJM do not currently allow public interest consumer groups like Public Citizen the ability to vote in this stakeholder process. Public Citizen has asked the question of whether RTOs should continue their dual role as both operator of the bulk power market and overseeing an internal administrative process to develop market rules and tariffs. The RTOs, with internal structures and alliances to transmission owners and generators, are simply too conflicted to be entrusted with overseeing a stakeholder process where electricity policy is developed. The goal should be separating the internal administrative process to a separate entity, or simply house that function at FERC. Absent that separation, the following are other governance reforms in order to improve transparency and RTO governance:

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[1] FERC Docket No. RM16-9, www.citizen.org/sites/default/files/public-citizen-ferc-public-participation-petition.pdf

[2] Section II, *The RTOs Are Political Entities Designed to Serve Entrenched Economic Interests,* www.citizen.org/system/files/case_documents/testimony-tyson-slocum-energy-and-commerce-committee-october-2017_0.pdf

- Grant public interest organizations full voting rights within an RTO stakeholder process and consideration of membership fee waivers.
- Provide intervenor compensation or other funding to assist with public interest participation in the RTO stakeholder process.
- Require RTO stakeholder meetings to be recorded, transcribed and freely available to the public.
- Representatives from law firms, consulting firms and other agents that are financially compensated to advocate for the interests of a client must publically disclose those clients when the agent participates in any stakeholder meeting.
- Adjust weighted sector voting ratios to more realistically reflect true stakeholder involvement in energy markets. For example, end users actually represent half of the energy system, and should therefore represent half of the weighted sector voting rights.
- Subject RTO operations to the federal Freedom of Information Act.
- Require stakeholders representing vested economic interests to fully disclose the impact of proposed tariff reforms on their company or client as prerequisite to voting on said reform.
- Limit RTO management role in stakeholder meetings; i.e. make stakeholder meetings truly independent from RTO management.
- Allocate RTO financial resources to stakeholders to fund studies, analyses, etc. to counter RTO management-funded studies.
- Designate at least one member of the RTO Board of Directors that is directly accountable to the public interest within the RTO geographic footprint.
- Disallow RTO management from bypassing stakeholders for FERC tariff and other market design proposals.
- Establish revolving door prohibitions on state utility regulators/utility executives from being employed by the RTO for at least two years.
- Conform RTOs compensation with federal GS guidelines in order to limit excessive RTO executive pay.
- Prohibit companies or other entities under RTO jurisdiction from serving as financial sponsors of special events or activities at RTO meetings.

Please let me know if you have any further questions.

Best,

Tyson Slocum, Energy Program Director
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